# The Builder.

No. CCXCI.

*SATURDAY, SEPTEMBER* 2, 1848.


A SMART blow has been struck against filth and fever, immorality and crime, by the transformation of Lord Morpeth's "Bill for promoting the Public Health" into an Act of Parliament. We are not of those who regard it as the *only* achievement which the present session has to boast of,—the preservation of order and the maintenance of the safety and dignity of England at home and abroad, during most troublous times, are not to be lightly treated,—nor do we view it as a perfect measure; but it is nevertheless an issue on which we can cordially congratulate the country, and indeed the world, because, as an undeniable evidence of the opinion entertained in England, it cannot fail to have a great effect in other countries, where life and property are at present recklessly wasted.

It starts on the unquestionable ground, that "further and more effectual provision ought to be made for improving the sanitary condition of towns and populous places in England and Wales," and that the supply of water, the sewerage, drainage, cleansing and paving of such places should, as far as practicable, be placed under one and the same local management and control, subject to a certain general supervision. The metropolis, as our readers have heard, is excepted from its operations.*

The first Commissioner of Woods and Forests, and such two other persons as Her Majesty may appoint (one of whom only is to be paid), are to constitute a "general Board of Health," with power to appoint a paid secretary: the board to continue for five years only. The board may from time to time appoint, with the approval of the Treasury, "superintending inspectors" for the purposes of the Act, with an allowance to each of not more than three guineas per day, for every day he shall be actually employed or travelling in the performance of the duties of his office, together with reasonable travelling and other expenses.

The services of these superintending inspectors will be brought into operation thus:—On the petition of not less than *one-tenth* of the inhabitants rated to the relief of the poor (not being less than thirty in number), *or* when the proportion of deaths, from febrile epidemic, endemic, and contagious diseases in any city, &c., appear upon the Registrar General's returns to have exceeded the proportion of 20 per cent. of the total deaths, or the general average rate of such deaths in the registration districts,—the board may send a superintending inspector to the place to inquire as to the sewerage, drainage, and supply of water, burial-grounds, sanitary condition of the inhabitants, existence of local Acts, &c., and report to the board. On which report the Act may be put into full force within such place by an Order in Council. In places where certain local Acts are in force, the order must be made provisionally, and sanctioned by Parliament. Except for the purposes of sewerage, the consent of the town-council is in some cases required.

This will serve to shew such of our readers as desire to see the condition of the several towns in which they dwell examined into, how to proceed: the necessary requisition is already in course of signature in Portsmouth, we understand, and elsewhere, calling on the board to send down an inspector. In places where the deaths have been above the proportion, the board will probably of themselves, as empowered by the Act, immediately institute the necessary inquiries, with the view of bringing the provisions of the Act into force.

The expenses of the inquiry, &c., in the event of the Order in Council being made, to such an extent as the Treasury may direct, are to be paid out of the rates on the district.

The Act, then, being brought into operation in any district, a local board of health is to be appointed, under prescribed regulations. In districts consisting of a corporate borough or boroughs, or part of a borough, the town council is to be the local board. In other cases, part of the local board is to be selected by the town council and part by the owners and rate-payers: and in districts not comprising any part of a corporate borough, all the persons forming the local board are to be elected by the owners and rate-payers. About one-third of the local board are to go out of office in each year, but are re-eligible.

The local board is to meet every month at least, maintain offices, appoint surveyor, inspector of nuisances, clerk, and other officers,—the surveyor and inspector to be subject to the approval of the general Board of Health. The local board, with approval of General Board, may also appoint a member of the medical profession, under the name of the "officer of health," and the same officer may serve for two or more districts, and be paid either by a salary or otherwise.

The local board may, if they please, obtain a map, exhibiting a system of sewerage for effectually draining their district.—Sewers, with certain exceptions, to belong to and be under the control of the local board, who are to repair the same, and make such others as may be required for the purposes of the Act. The board is also to have the sewers constructed, covered, and cleaned, so that they may not be a nuisance or injurious. A communication must not be made with any existing sewer, nor any building erected over a sewer, nor any vault formed under the carriage-way of a street, without leave from the board: a house must not be built or rebuilt without proper drains.

In places containing less than 5,000 inhabitants, where this Act shall not have been applied by an Order in Council, if it shall appear at a public meeting to the majority of the inhabitants there assembled that any open receptacles should be drained, covered, &c., or that a sewer should be made, a well dug, a pump constructed, *or water otherwise provided*, the churchwardens and overseers shall procure a plan and estimate of the cost,—and if the same be sanctioned by a majority of the rated inhabitants assembled at another meeting, the work is to be done, and paid for out of the poor-rates.

It will not be lawful to erect or rebuild any house without a water-closet or privy or ash-pit; and provision is made for the proper arrangement of similar conveniences in factories, &c., where persons of both sexes, in number more than twenty, are employed. Relative to proper levels, &c., for these conveniences, their situation and construction, notice must be given to the local board fourteen days before beginning to build or rebuild; and the board are to see that all cesspools, closets, &c., are kept so as not to be a nuisance. And on a written application, shewing that a drain, water-closet, cesspool, or ash-pit, "is a nuisance or injurious to health, but not otherwise," the surveyor may, after twenty-four hours' notice (or, in case of emergency, without notice), open and examine the same, and if necessary remedy the evil at the cost of the owner, when the latter will not do it himself.

The board is to see to the cleansing of the streets, and the provision of public necessaries,—an important and much-needed power. The board is to drain, cover, or fill up, all ponds, drains, and places containing matter likely to be prejudicial to health, having first given notice to the owner or occupier of the premises whereon the same exists. Offensive matter is to be removed on certificate of inspector of nuisances; houses are to be purified on certificate of officer of health, or any two medical practitioners; the emission of opaque smoke ("which shall for the purposes of this Act be held to mean smoke not transparent at the point of its exit from the chimney or flue") is made liable to a penalty; and slaughter-houses are to be registered, and, if necessary, provided by the board. Offensive trades or manufactures are not to be newly established in any building without consent of local board, "unless the general board shall otherwise direct."

A clause, enforcing the ventilation of places intended for the assemblage of numbers of people, was struck out by the Lords.

Public lodging-houses are to be registered, and the local board is to make regulations for promoting cleanliness and ventilation therein. It will not be lawful to let, or occupy, as a dwelling, any vault or cellar built after the passing of the Act; nor to continue to let, or occupy, as a dwelling, any underground room whatsoever, unless the same be in every part 7 feet high, and under certain other conditions.*

The management of all present and future streets, pavements, &c., is to be under the local board, who, further, have power to compel owners of private streets to sewer, pave, &c., and have power to purchase premises to improve streets; and with the approval of the general board, provide and maintain public walks and pleasure grounds.

The local board is to provide their district with sufficient supplies of water, but is not to construct water-works if any waterworks company within their district be able and willing to supply water on such terms as the general board may consider reasonable.

* "That is to say, the City of London and the liberties thereof, the parts within the limits of certain commissioners of sewers, bearing date, at Westminster, the 30th day of November, in the year of our Lord 1847, also the parts within the limits of a certain other commission of sewers, bearing date at Westminster, the 4th day of December, in the year last aforesaid, and the parts subject to the jurisdiction of the commissioners acting in the execution of an Act of the fifth year of the reign of king George the Fourth, for (amongst other things) more effectually paving, lighting, watching, cleansing, and regulating the Regent's Park, and in the execution of the several Acts for extending the jurisdiction of such commissioners."

* The conditions are as follows:—"Unless the same be in every part thereof at least 7 feet in height, measured from the floor to the ceiling thereof, nor unless the same be at least 3 feet of its height above the surface of the street or ground adjoining or nearest to the same, nor unless there be outside of and adjoining the same vault, cellar, or room, and extending along the entire frontage thereof, and upwards, from 6 inches below the level of the floor thereof up to the surface of the said street or ground, an open area of at least 2 feet and 6 inches wide in every part; nor unless the same be well and effectually drained by means of a drain, the uppermost part of which is 1 foot at least below the level of the floor of such vault, cellar, or room; nor unless there be appurtenant to such vault, cellar, or room, the use of a water-closet or privy, and an ash-pit, furnished with proper doors and coverings, kept and provided according to the provisions of this Act; nor unless the same have a fireplace with a proper chimney or flue; nor unless the same have an external window of at least 9 superficial feet in area clear of the sash-frame, and made to open in such manner as shall be approved by the surveyor, except in the case of an inner or back vault, cellar, or room, let or occupied, along with a front vault, cellar, or room, as part of the same letting or occupation, in which case the external window may be of any dimensions, not being less than 4 superficial feet in area clear of the sash-frame."—This is not to come into operation till one year after passing the Act, nor in any district till six months after the application of the Act to that district.

If on the report of the surveyor it shall appear that any house is without a proper supply of water, and that such supply could be had at a rate not exceeding 2d. per week, the local board, in the event of the occupier being unable after notice to obtain such supply, shall do the necessary works and recover from the owner. The board may supply water for public baths and washhouses, maintain pumps, reservoirs, &c., and construct new public cisterns for the gratuitous supply of water.

The powers of the local board in respect of interments are not so great as they should have been; still a movement is made in the right direction. On the certificate of the general board, only to be given after circuitous inquiry, to the effect, "that any burial-ground situate within any district to which this act is applied, is in such a state as to be dangerous to the health of persons living in the neighbourhood thereof, or that any church or other place of public worship within any such district is dangerous to the health of persons frequenting the same, by reason of the surcharged state of the vaults or graves within the walls of or underneath the same, or of the churchyard adjoining the same,—the said local board may, subject to the approval of the said general board, procure some convenient place wherein interments may take place, on conditions to be settled by the said general board, and (so far as relates to the interment of persons belonging to the Church of England) approved by the Lord Bishop of the diocese;" and thereupon it will be unlawful to bury under the ground or church to which the certificate relates. "Provided always, that nothing herein contained shall prejudice or affect the right of interment in any family vault or burial place." Interments within churches or burial-grounds erected or formed after the passing of the act, are prohibited, unless with consent of the general board.

Local boards before commencing works are to obtain estimates of cost, and before entering into any contract above 100*l.*, shall publicly advertise for tenders. Instead of calling on owners for the amount of those expenses, which may be declared by the board "private improvement expenses," the board may levy separate rate upon the premises sufficient to discharge such expenses, together with 5 per cent. interest on the same, in a period not exceeding thirty years.

We have thus laid before our readers with some care the intentions and principal powers of the new Act. Some annoyance and ill-feeling will probably be caused in the first instance by its operations, but all must see that the general welfare will be advanced by the proper administration of it; to obtain which all should consider themselves, as they really are, vitally interested, and so feel bound to overlook any trifling personal annoyance to which it may subject them. Very much will, of course, depend on the surveyors and health-officers appointed by the various local boards, and we therefore strongly urge the latter to make each election with the greatest care and consideration, not regarding the appointment as a good place for a man, but seeking most anxiously for a good man for the place.

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TO TAKE STAINS OUT OF MARBLE.—A surveyor writes:—In answer to your correspondent's inquiry, how to take out stains from statuary marble? I beg to say that I have had American potash used, by making a thin paste of it, and laying it on with a brush, and it has been effectual, but I am not sure that it will take out the stains of *oil*.—S. NOBLE.

## ON BRICKWORK,

MORE ESPECIALLY WITH REFERENCE TO ITS APPLICABILITY TO MODERN DECORATIVE ARCHITECTURE.*

At Sutton-park, Surrey, supposed to have been built by Henry the Eighth's brewer, the walls are of red brick, and the mullions and other dressings, cast in clay, of a deep cream colour, which, it is said, had exactly the appearance of stone. The hollows in the moulding of the windows are filled with an ornament of the same material. Here, as in most of the buildings of the kind, the otherwise plain face of the wall is relieved by means of chequered work, composed of glazed bricks, of which a modern writer† remarks, that "with a tact so peculiar to themselves, these, like other disadvantages, were, by the old builders, turned into beauties. Instead of allowing the workmen to use these bricks indiscriminately, and thereby disfigure the walls, they were selected and wrought into devices, relieving the plainness of those parts which had neither apertures nor stone dressings."

Notwithstanding this opinion, I am inclined to believe that the glazed bricks were expressly made, by the old builders, for decorative purposes. Extreme care is needed in placing them—and, indeed, in contrasting all descriptions of bricks—for, if they be too plentifully employed, the wall has too much the appearance of fancy needlework. A failure, this way, may be seen in the Brixton-hill schools, where the architect seems to have had no other idea than that of violent contrast. Stone is used only for the labels and drips to windows. The coins, window-dressings, and other ornamental parts are of white, and the walls of a yellowish-red brick. Throughout the front, in small diamond pattern, these glazed bricks are introduced, and the harlequinade effect is considerably heightened by the whole being laid with black joints. The chimney-tops—which are about three times too large—are ornamented with bricks of four or five different colours, continued spirally,—somewhat similarly to the chimney at the New-cross Railway Station; but there, the variety of colour is, with common bricks, artistically subdued, and produces at once an agreeable and harmonious variety.

At Streatham, and near Pope's villa, Twickenham, attempts have been made to vary, in a different way, the blankness of fence walls: it is there done with red bricks. Both a positive and negative good may be deduced from these efforts. In effectually disposing of the monotony, they have also, as surely, discarded the stability of the wall. The joints are oftentimes placed over each other—bond being unheeded—to suit the '*pattern*,' and bricks are laid on edge, or as they may best fill the '*pretty panel*' that had been designed, without the slightest consideration of its constructive capabilities.

Failures of this kind would also inevitably result from the adoption of the designs given for brick parapets, in "Loudon's Encyclopædia." It cannot be too often remarked that the constructive capabilities of ornamental brickwork must have paramount consideration.

As an example of ornamental brickwork, we must not forget the celebrated tomb at Wymondham Church, Norfolk, and its beautiful show of foliated decoration. It was built soon after the introduction of Italian art into this country, when brickwork and bricklayers were honoured in the person of one whose after-developed genius commands reverence for the name of Ben Jonson.

After a slight decline the art was revived in Inigo Jones's time, and a law was passed prohibiting the use, in London, of a less destructible material for building purposes. No. 45, St. Martin's-lane, is an instance of the neatness with which the most intricate forms of brickwork may be executed; it is, perhaps, unrivalled in or near London. It consists of two fluted Doric pilasters, with enriched caps, entablature, and soffit. The ornamental foliage—of a different pattern in each metope—is most elaborately and finely executed, and with a degree of accuracy unsurpassed by stone.

On account of the closeness of the joints, I was, till very lately, uncertain whether to consider these metopes formed each of one block of clay or not: but in passing through the Temple I perceived a somewhat similar specimen, with the foliage of the capital executed in pieces of the size of an ordinary brick. From this and similar works I have seen since, I concluded the ornament in St. Martin's-lane was executed in like manner.

Adjoining the latter, Nos. 44 and 46 respectively, there is a dentilled Ionic, and an enriched Corinthian cornice, with modillions, &c., all of brick.

In parts of Christ Church school, Newgate-street, the Ionic pilasters, vases, and angular caps are indebted to no other material for their merit; the cornice is composed of wood.

There are, in different parts of London (for instance, at the corner of King-street and Gresham-street, Cheapside), good examples of cornices which, with a trifling outlay, produce capital effects. There are ornamental brick door and window-dressings, with trusses, &c., in Kings's Arms-yard, Lothbury (fig. 1), and in the Inner Temple (fig. 2). At the first-mentioned place a larger kind of brick is employed in an angle corbel, though at first scarcely perceptible on account of their joints being unpointed, whilst the white lines from the face are continued along the surface of the corbel bricks. The trusses in the Temple are of three different patterns. They are composed of bricks of the ordinary size, very accurately and closely set. The only other ornament connected with these buildings is a fine bold brick string about 18 inches high.

One great peculiarity in all the buildings erected at this period is, that the band or string, in almost every instance, runs along immediately on the top of the window-arch, instead of being, as in modern custom, placed under the window opening. Another circumstance connected with these works is, that not one of them has *completeness;* we have here a good truss; there, a beautiful cornice; yonder, an ornamental string; but in no instance are these ornaments artistically allied, or is it attempted.

Are not these examples abundant and sufficient proofs that there are no required shapes but what may be produced in brickwork, and that taste and judgment only are needed:—the first, to collect the materials, even of form, which other minds have laboured for and brought forth; the second, to direct their proper application? Be certain, a man who produces nothing but what is strictly original beauty, will do but little in a lifetime. Let us not adhere to the shell in our admiration for the pearl, but con well the wants of our age, and get whence we can the materials with which to satisfy it. Is English landscape less pleasing because corn decks the earth also in America, or because grass springs everywhere? No; our national skill and climate create the diversity. What more do we require in art? When applicability is surrendered to the whim of copying a past structure, then evil occurs, not otherwise. Has not this evil prevailed for some time in our street architecture? The style of beauty applicable to stone or marble is imitated in a brick-built house. This is false, and consequently to be avoided. The science and art of architecture should be combined with Siamese inseparability; instead of which, the former is made distinct and separate, "the beautiful" being added as directed,—

"Lay it on thick,
For sure then *some* of it will stick."

In gazing upon the works of nature, it is not the red flower, the brown blade of corn, the blue sky and their appropriate grouping, that cause the agreeable sensations within us. Half our gratification is derived from what is visible but to the mind: from the consciousness of nature's secret workings, by the known and unknown harmonious laws that regulate her growth. Can these two sources of pleasure be separated? No:—it is their combination that gives perfection to each. In this spirit we should imitate nature, rather than superficially. Yet we hear it sometimes advanced that science is a hindrance to art,—that there is nothing poetical, and consequently, nothing artistical in it; but, I would ask, is poetry or grandeur wanting in the lightning passage of an engine through the earth, or in the long sleep of the wide-spread pyramid on the burning sands? Man's mind, creative in its boundless power, should see beauty and discern art in all things, and the

* See page 412 *ante*.

† Hunt's "Tudor Architecture."

## ORNAMENTAL BRICKWORK.

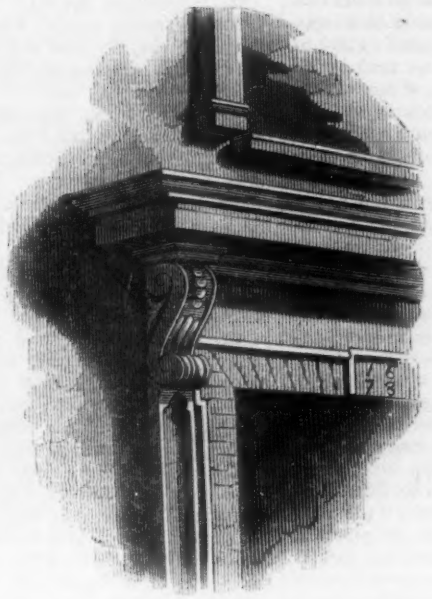


*Fig.* 1.—LOTHBURY.

*Fig.* 2.—INNER TEMPLE.

possession of scientific materials, — brick, iron, &c.,

"The bones of the giant, Civilization,"

is like a fresh point of observation to the poet; they are additional fuel to the blaze which may, for a time, appear obscured to them, but will eventually seize on every side, and use them but as instruments for its own exaltation, and for diffusing a brighter glow to the surrounding world. The scientific material *we* are obliged to resort to, on account of our geological position, is brick. Instead of art being the gem to adorn it, it has been too long considered but a veil to obscure it.

To the unfortunate antagonism in which the art and science of architecture is placed, I attribute the cry of regret that we shall have no "national" edifice on the land we bequeath to posterity. Were our buildings durable, no one would, I think, misread the age when Gothic art was made lustrously intrusive, and the external outline of the Italian palaces were purified to adorn Pall Mall. Will the Houses of Parliament be no index to the future art-historian? The fact is, the majority of our buildings—our Compo ones—will scarcely outlast one generation; otherwise, we might

"make our life sublime;
And dying, leave behind us
Foot-prints on the sands of Time."

What, then, is the cause of this error?

Firstly,—I attribute it to that broad Upas tree —Fashion: to another phase of that vulgarism which has been well ridiculed under the head of "snobbishness." Do we not see the same disgusting propensity for finery and flippancy; the same dissatisfaction with the true position, and an envy of the grandeur unattainable; the like grasping at the *appearance*, instead of the *reality* of truth; and, worse than all, being satisfied with it? The tradesman is not contented unless his shop—or, pardon me, his first floor—be like a mansion at the West-end; and in happy ignorance he retires in the evening to

"fill a niche in
A Grecian temple opening to a kitchen."

Another preventive—and the most formidable to brick decoration—is "the duty." This is 5s. 10d. on ordinary bricks; double that sum if the size be but an inch exceeded (and, remember, this duty is levied before the bricks are burnt. This requires a larger profit, to cover the loss on the bricks damaged in burning); and a double duty is also charged on ornamental bricks. "Why," asks a writer in THE BUILDER, "should the geological position of a place be taxed? A person living near a stone quarry pays no tax for his building material; why should he who chances to reside near a brickfield?"

Speaking of this subject, Dr. Ure says,—"The espionage of the excise is a bar to all invention, in every art under its control. The excise system is totally incompatible with their healthy growth. The sooner this portion of the revenue—so offensively, oppressively, and expensively collected—is replaced by an equitable tax on property, the better for the welfare of this great country. In concluding a very extensive survey of the great branches of our national industry, this vile obstacle to their progressive growth became so apparent, that it would have been pusillanimous to shrink from the task of pointing out the magnitude of the evil."

It is strange that the architectural societies move not in the matter. Their opinions would have great weight.

If the duty cannot be taken off all kinds of bricks, at least the barrier might be removed which obstructs the onward march of a section —and no inferior one—of decorative architecture, and prevents the transit of the old brick ornament into the present century. That this would result from its removal, we conclude from the fact that glass has become highly ornamental since it has been exempted from duty. Much may, however, yet be accomplished by an artist of taste and judgment, as is proved by examples which follow. One of the first modern attempts was made at the New Streatham Church, by Mr. Wyld. The decoration is procured at a comparatively trifling cost, and the position of every brick seems to have been determined after attentive consideration. The angular ornament so conspicuous there, is also seen in the fence walls of Lambeth Palace, and in the almshouses at the corner of the Kennington-road.

It will be perceived that all projections entail the necessity of having the interior of the wall occasionally formed of small pieces. This is, of course, to be regretted, but the brick duty almost compels it, by forbidding the use of larger sized bricks. To give as much consistency as possible to these parts, they should invariably be laid in cement. Another constructive defect is in the cornice, where tiles are laid on, instead of the parts being expressly moulded; but—"*the duty.*"

The campanile of Streatham church is covered with bricks laid in a diamond-shaped pattern, relieved by bricks of a different colour, and the effect is good. The small three-light window in the western front will also repay attention. The whole church is evidence of what good effect may be produced with a small outlay, judiciously employed.

Another specimen I shall instance, in the ill-fated engine-house at the New-Cross station of the Croydon Railway.

The defect in Mr. Wyld's cornice is not seen here, and the joints of the brickwork composing it are very carefully broken. One course is laid on edge, apertures being left in it for the ventilation. The keys to the arches, ends of pediment, and other parts requiring additional strength, are stone. We may see here what good results spring from simply splaying the angles.

The whole of the decorations of this building, particularly the tall chimney before mentioned, are very effective, especially at a distance. As we approach, it seems rather too *red* for its position. Had it, for instance, instead of a dirty-looking town, some fine tall trees to relieve it, the effect would be at once much improved. This is a point that needs to be well studied, and the various hues of which bricks may be obtained afford the architect an opportunity of designing his building in perfect harmony with the adjoining scenery. The climate of our country is on the cool side of temperate, and requires, consequently, that a cheering tint should prevail in our buildings, and no material can give this better than bricks. The disagreeable effect of *white* compo is palpable.

I do not maintain that brickwork should be employed for every architectural purpose; but wherever it is used, it should be suitably decorated.

I will now consider two or three arguments to be urged against it.

It is common. Be it so;—the more conspicuous will the *art* become; for,

"Like bright metal on a sullen ground,
'Twill shew more brightly and attract more eyes,
Than that which hath no foil to set it off."

It has, however, a bad name. We have a right regal sneer against its employment. Augustus Cæsar is reported to have said, in his usual boasting style, that "he found Rome of brick, and left it of marble." Supposing he did so (which is not the fact, for marble was used there years before he trod the "by-paths and crooked ways" that led to his throne), it was on account of the morbid desire for *possession*, rather than *appreciation* and *production* of art, which reigned in his age, and which developed itself in the luxury and magnificence which surrounded Rome's first Emperor.

Notwithstanding this objection, I believe if

*true* art may be seen, even in bricks, in our ordinary streets, it will eclipse the more assuming buildings around, which have their superficial and butterfly splendour plastered on—never to superior material, oftentimes, relying on concealment behind their showy exterior, to weak unsubstantial place-bricks wretchedly mortared together.

A second objection may be raised as to comfort. It is said that bricks absorb moisture, and therefore hollow walls should always be provided, or a coat of plaster laid on to keep the damp out. Of all the inventions—and their name is legion—brought forward to counteract this evil,—though their prospectuses had asserted them to be very little dearer (some even cheaper) than ordinary bricks,—none have become generally used. The reason, I think, is, that though theoretically, the old method of laying bricks has been shown to be wrong, *practically*,—by those who live in a 14-in. walled house—no inconvenience is felt. When a building is just finished, the walls are of course damp, but they soon dry, and I think, effectually. This is, assuming that the brickwork be properly laid, and with what fine joints it may be done, is seen in the buildings erected about a century and a half since, or a little earlier. I imagine, were this done, and the site well drained, there would be no need of such inventions.

Lastly: it may be said that brickwork is too expensive. When we consider its durability, and that compo is continually requiring repainting, is not this objection set aside? Were it not for the duty, it would be much cheaper.

A word or two ere I conclude on the "style." The ecclesiastic, having by an Oxford patent galvanized the dead bones of Catholicity, digs up her Gothic shroud, and avers *that*, with all its grave-begotten uncleanness, to be *our* national fabric. Might not the same, with equal justice, be said of Stone-henge? Yet, at the wink of this expiring flame, new chancels, sedilia, piscina, rood-lofts, puny little panes of glass to fill

> "Storied windows richly dight,
> *Mullion'd to exclude the light*"—

have arisen, as if by magic, with no other good than a little amusement to the spectators. Let me not be understood as hostile to the beauties of mediæval art: but I hold that modern science and requirement should not give place for *their* re-production, much less, for that of its quaintness, bad drawing, and absurdity. Brickwork will never re-produce Gothic architecture, we may be satisfied. "What style will it then take?" I would answer, Let us think not of that; "*style*" but denotes what is *past*. Hold fast to Truth and Harmony—follow and trust in them; *their* beauty may then envelope *us*. Let us rest assured no perfect Grecian, Roman, or Gothic art *can* ever be revived. The stream of time ebbs not, and they have all been left upon its banks.

Wm. Boutcher.

## THE INSTITUTE OF THE FINE ARTS.

The council of the Institute of Fine Arts, anxious to cancel an overhanging debt, and to render its funds commensurate with an enlarged sphere of usefulness, are making an appeal to the upholders of the fine arts in this country for assistance. A number of the members have volunteered to present to the society some work of art, and from the collection which will thus be formed the council offer donors of ten guineas first, and of five guineas secondly, a choice.

The number of members possessed by the institute is at present 300; it ought to be four times as many, and would be, we cannot help thinking, if its managers (who nevertheless deserve praise for personal exertions) took more enlarged views, and acted with greater vigour.

Amongst other steps, we would suggest to them a judicious increase of their list of honorary and corresponding members at home and abroad, comprising those who deserve well of art; the establishment of a corresponding member in every important town in the kingdom; and the formation of a new class of honorary members, with a distinctive title, open to the Royal Academicians, on payment of, say 20 guineas.

## GEORGE STEPHENSON

### THE MATURER OF THE RAILWAY LOCOMOTIVE.

Amid the competitive claims of not a few men of thought and invention to a share of the merit, ideal and practical, of originating the grand leading feature of this "age of iron"—the railway system—we presume that no one will deny that the extraordinary man who has recently quitted this earthly stage of human ambition, with fewer of its vanities, we daresay, or even of its vexations of spirit, than fall to the lot of the many,—merits, at least, the honour, great as it is, of being considered the "establisher and maturer of the railway locomotive."

That there are, or have been, not a few aspirants to the still higher and more comprehensive honour—due, in all probability, to no one individual—of being the originator, practical and theoretical, of the railway system at large, need not be wondered at, considering that, when the steam-engine had once suggested the idea of the substitution of steam power for animal power, the mere desire to imitate the old modes of conveyance by help of the new modes of power, must have tended to force itself into every mind enlightened or interested in the new discoveries and inventions of the previous age. And that the locomotive was from the first but "the iron horse," not only in idea, but in practical effort, will be clearly seen when the fact is recollected, that in 1813—sixteen years before Mr. Stephenson's first ostensible railway locomotive won the grand locomotive race on the first locomotive railway—Mr. William Brunton, of Butterley Iron-works, patented an iron horse with legs!

But that even the amalgamation of the four-legged horse with its four-wheeled vehicle was itself too obvious an idea not to have also from the same first origin forced itself into notice, may be seen from the fact, that even so far back as 1802, Messrs. Trevithic and Vivian patented a high-pressure engine with wheels, adapted to locomotion, but designed for turnpike-roads, and in fact exhibited it that very year near Bethlehem hospital, where all the metropolis might have seen it running.

Even the idea of the adaptation of the locomotive to the rail must have forced itself simultaneously on the minds of many, as a mere desirable improvement of the old jog-trot horse-and-waggon railway, or even of the scarcely less old self-acting plane, or rope and steam-engine, railway system; and the idea certainly did originate with several. Thus, in 1811, Mr. John Blenkinsopp, of Middleton colliery, near Leeds, patented a rack-rail, on which a steam-engine with rack wheels was to travel; there being an erroneous notion at that time in the minds of engineers that an engine would not travel on a smooth rail, for want of "bite." And although doubts of a like description prevailed in the minds of many, and even amongst the shareholders of the first great line of rail connected with the present system, down to 1829, when the contrary was proved by Mr. Stephenson and his competitors, so far back as 1814 it had become known, through an experiment made by Mr. Blackett, on the Wylam waggon way, with an engine constructed in 1813, that racks, and chains, and legs were all superfluous, the wheels gripping a plate rail, and moving onwards independently of any assistance whatever.

As remarked, too, by Mr. Charles Maclaren, editor of the *Scotsman*, esteemed as a man of science and ability, and moreover one of the claimants to the credit of having "first anticipated the marvels of railway travelling,"—articles by him in the *Scotsman* drawing attention to this grand idea having been published in 1824, republished in 1825, translated into French and German, and reprinted in the United States,—so far back as 1807 a distinguished philosopher, Dr. Young, in his lectures on natural philosophy, while laying down the theory of friction, suggested the idea, that "it is possible that roads paved with iron may hereafter be employed for the purpose of expeditious travelling, since there is scarcely any resistance to be overcome, except that of the air; *and such roads will allow the velocity to be increased almost without limit.*"

Though many have merited a share of that honour, however, in the distribution of which amongst them we must not overlook the name of Mr. Thomas Gray, already sufficiently noticed on previous occasions in The Builder, it remained for the esteemed owner of the name at the head of this article, after all was said and done, to *realize* the grand idea on a *practical* basis, which he more and more matured, at least, if he did not originate.

Mr. Stephenson the elder (the subject of the present desultory notice), was in the 68th year of his age when he died, at Tapton House, near Chesterfield, on Saturday, the 12th of August current.* He was born on 9th June, 1781, of the most humble parentage, at a solitary cot or cottage, on the Tyne, between Wylam and Closehouse, Northumberland, about eight miles west of Newcastle. His father was an engine-tenter at a colliery, and he himself began life as a pit engine-boy at 2d. a day's wages, and afterwards acted as a stoker, and as a breaksman in the employment of Lord Ravensworth and partners, where his mechanical talent first forced itself into notice in the amateur repair and improvement of a condensing pump-engine, where some engineers had failed. He was then promoted to the office of engineman; but we do not know whether it was at this critical period of his history, or even earlier, that he declared to a confidant, that having risen from 2d. a-day to the independent sum of 12s. a-week, he was now a man for life. At this very time, at all events, the fates began to educate him for his future and still more manly career in life; for something went *wrong with the waggon way*, or it never had been any thing else but wrong until he tried his apprentice hand upon it, and of course improved it. He was afterwards employed in forming railway planes and engines under ground. Indeed we may say, that from this time forward, his peculiar mission was chalked out for him, as, in the midst of defects in the working of coal railways, he happened to be placed in the most favourable circumstances possible for the engagement of his attention and his peculiar talent. "In this, however," as remarked by a writer in the *Gateshead Observer*, to whom we are indebted for the record of some of these facts, "he was not singular. The same question had occupied, and was occupying, other minds; and we put in for Mr. Stephenson no higher claim than that he was the most prominent and meritorious of the men who founded the modern system of railway-travelling."

The main points in his subsequent career we cannot better describe than in his own words at the opening of the Newcastle and Darlington line of railway in 1844:—

"Mr. Liddell has told you that in my younger days I worked at an engine in a coal-pit. I had then to work early and late, often rising to my labour at one and two o'clock in the morning. Time rolled on, and I had the happiness to make some improvements in engine-work. The first locomotive that I made was at Killingworth colliery, and with Lord Ravensworth's money. That engine was made 32 years ago, and we called it *My Lord*. I said to my friends that there was no limit to the speed of such an engine, provided the works could be made to stand. * * * I betook myself to mending my neighbours' clocks and watches at nights, after my daily labour was done; and thus I procured the means of educating my son. He became my assistant and companion. He got an appointment as under-viewer; and at nights we worked together at our engineering. I got leave to go from Killingworth to lay down a railway at Hetton, and next to Darlington; and after that I went to Liverpool, to plan a line to Manchester. I there pledged myself to attain a speed of ten miles an hour. I said I had no doubt the locomotive might be made to go much faster, but we had better be moderate at the beginning. The Directors said I was quite right; for if, when they went to Parliament, I talked of going at a greater rate than ten miles an hour, I would put a cross on the concern. It was not an easy task for me to keep the engine down to ten miles an hour; but it must be done, and I did my best. I had to place myself in the most unpleasant of all positions—the witness-box of a Parliamentary Committee. Some one inquired if I was a foreigner? and another hinted that I was mad.† I put up with every rebuff, and went on

* His death is attributed to his having spent nearly the whole of his time latterly, in the impure air of a hot-house, in a praiseworthy, but imprudent, rivalry with the Duke of Devonshire, in the cultivation of certain exotics. Whether peer or commoner, Stephenson could not bear that any man should be his superior or equal in anything he undertook.

† Many of the shareholders themselves had previously manifested symptoms of the same way of thinking; they became alarmed at the "mad" scheme of this "Watt

with my plans, determined not to be put down. Assistance gradually increased—improvements were made every day—and to-day a train which started from London in the morning has brought me in the afternoon to my native soil, and enabled me to take my place in this room, and see around me many faces which I have great pleasure in looking upon."

The competitors of Mr. Stephenson for the premium of 500*l.* offered in 1829 by the new Liverpool and Manchester Railway Company for the best locomotive engine were Mr. Burstall (or Burstall and Hill), Messrs. Braithwaite and Ericson, and Mr. Hackworth. Burstall's locomotive, the *Perseverance*, was withdrawn: it was made for locomotion on turnpike roads, on which it had repeatedly run with success previously, as we happen to know, although we cannot now recall the precise reason why it was withdrawn at a critical moment, when, had its parts been properly readjusted on the ground, we cannot doubt but that it would have run, as it did before, and well too—better far, of course, than it had already done, even on the rougher and more trying track of a common road. It was, indeed, the fruit of much perseverance and more cash; and, in all probability, lost its place in the grand race of renown by the mischance of some mere accident.* The other two locomotives, the *Novelty* and the *Sansparell*, broke down, while Mr. Stephenson's *Rocket* outran the requirements of the Directors, averaged 15 miles an hour in speed, won the prize, and ushered in "the greatest mechanical revolution effected since the invention of the steam-engine by Watt," and its more immediate fruits.†

The subsequent career of Mr. Stephenson was as rapid and as smooth as the railway locomotion which he had done so much to realise. He took the lead, of course, at once, in railway engineering, became an extensive locomotive manufacturer at Newcastle and a railway contractor, a great colliery and iron-work owner, particularly at Clayeross, and, in prosperous and money-making conjunction with Mr. Hudson, in a manner *made* our great railway system, as they themselves, in a money-making sense, were *made* by it.

The claims of Mr. Stephenson to the original idea of the Davy Lamp at one time excited a good deal of discussion; but whatever be the merits of that question, certainly Davy was a man of more originality of idea, Stephenson more a man of happy talent in mechanical adaptation of ideas to useful and to noble purposes.‡

The present notice has really no pretension to the title of a memoir, however brief, our limited space having compelled us simply to form the idea of throwing together a few of the more prominent subjects of interest in the life of a remarkable man, who has done much for us all during a sojourn amongst us of but too brief duration had not his mission been fulfilled—his work accomplished.‖

run wild;" and in order to prevent his no less mad steam-engines from being let loose upon their cherished horse-trot railway project, they got two "eminent engineers" to act as Commissioners *de lunatico inquirendo*, and report. The "eminent engineers" accordingly investigated the subject, and, in "a very able document," proved most clearly that Mr. Stephenson's project was practically and commercially inexpedient! Talent and enterprise, however, prevailed, and the horse plan was abandoned.

* In justice to Messrs. Borthwick, then merchants at Leith, we think it right, as we are sure Mr. Burstall would, here to record, that to their liberality, as well as to his own talent, was he much indebted for the *means of perseverance*.

† In acknowledgment of Mr. Stephenson's claims in connection with railways, the Midland Company voted 2,000*l.* in 1845, to be expended in the presentation of a service of plate and the erection of a statue on the high-level bridge across the Tyne,—the structure recently proposed to be called the Stephenson-bridge in honour of his memory, and seen to the left of the castle in the illustration of present number. Mr. Hudson, on whose motion the grant was made, stated that three other Companies—the York and North Midland, the Newcastle and Darlington, and the Newcastle and Berwick—would each vote a like sum.

‡ There was a powerful local feeling in favour of Mr. Stephenson's pretensions to the priority of invention. A committee was appointed to investigate the priority of the claims of the inventors of the safety lamp, and a public dinner was given by that committee to Mr. Stephenson, when a purse of a thousand guineas, and a silver tankard, were presented to him. In returning thanks, he announced his intention of devoting the money to the education of his son at the Edinburgh University. It is rather curious that, nearly thirty years afterwards, another piece of plate was presented to Dr. Clanny, as "the inventor of the safety lamp."

‖ "In private life," says a correspondent of the *Athenæum*, he earned the regard of all who appreciate worth and liberality, not less than ability. His habits were active, his constitution so vigorous that he was tempted occasionally to take undue liberties with it. His affections were warm, his manners frequently playful and vivacious, bearing that stamp of originality indicative of the man. He was fond of the society of ladies; selected them commonly for conversation in mixed parties, where he could follow the bent of his inclinations, and was thrice married." He never hesitated to acknowledge the humbleness of his origin, but, on the contrary, displayed a manly pride in occasional reminiscences and contrasts. It is recorded of him that, in response, on one occasion, to the curiosity of a stranger lady, he said,—"Why, madam, they used to call me George Stephenson; I am now called George Stephenson, *Esquire*, of Tapton House, near Chesterfield. And further let me say, that I've dined with princes, and peers, and commoners—with persons of all classes, from the humblest to the highest;—I've dined off a red herring when seated in a hedge-bottom, and have gone through the meanest drudgery. I've seen mankind in all its phases, and the conclusion I've arrived at is this—that if we were all stripped, there's not much difference." With all this plain-spoken bluntness, however, he appears to have had a spice of the courtier too, as another anecdote told of him would seem to betray. "I tell you what, my lord duke," he said, on one occasion, while on a visit at the princely country seat of the Duke of Devonshire, "your Grace won't find the change, after all, so very great, when you get into Paradise." Above all his own engineering and other titles—and he had even been created a Knight of Leopold of Belgium (for railway services), and an F.R.S.—he is said to have specially esteemed his title of founder and first president of the Society of Mechanical Engineers. His attention to the mental and temporal improvement of the workmen in his collieries (1,000 and upwards), is said to have been unremitting.

## THE CATALOGUE OF THE BRITISH MUSEUM.

SIR,—Presuming that you have no objection to laying before your readers some additional remarks upon the "existing" catalogue of the British Museum, I commence by observing that the Lord Advocate must be wholly unacquainted with that chaotic mass, extending to upwards of sixty folio volumes; or else he must be in possession of a divining rod which enables him to discover at once under what title the work he is in search of lies concealed. By the help of such rod, a person who wanted for instance Cicognara's "Fabbriche più cospicue di Venezia," would, instead of looking for it under "Cicognara," or "Fabbriche," or "Venezia," turn at once to Diedo! Consulting the admirable "existing" catalogue, is pretty much like making a voyage of discovery; and though you are very likely to miss the object of your search, you may possibly stumble upon something else which you are glad to have found out, although you certainly would never have looked for it, and that for a very all-sufficient reason—ignorance of the existence of what so unexpectedly turns up. People cannot possibly look for books whose titles they never heard of; and if they occasionally meet with in the catalogue, by mere accident, some which they rejoice to learn are thereby rendered accessible, the exultation at such discovery is greatly damped by the reflection, that still greater treasures may lie for ever hidden from them in the mazes of the labyrinth yclept the catalogue.

Great, however, as are the inconveniences arising from the want of a classed catalogue, the latter is not likely to be provided at all the sooner on that account. It seems to be thought that readers at the Museum must by this time be just as well accustomed to those inconveniences as eels are to the being skinned alive. To many frequenters of the reading-rooms it is matter of indifference whether the much-needed classification be ever undertaken or not, they knowing that, were it to be commenced forthwith, it could never be completed in their time; therefore they have no particular objection to others being subjected to the same inconveniences as they themselves have been forced to experience and submit to. Hardly needs it to be said that far other and more generous considerations ought to prevail in the management of so important and national an establishment as the library of the British Museum; and certainly the longer the task of forming a classed catalogue is delayed, all the more formidable and laborious will it become, owing to the continual accumulation of books.

One effect which a classed catalogue would have, would be to make manifest how exceedingly great are the deficiencies in some departments of literature, and how much others are crammed with what is comparatively worthless. Some foreign literatures are hardly represented at all in our national collection, not even all their standard writers and classical works being there to be found.

To confine myself to that branch of study in which you and your readers are most of all interested, architecture: the deficiencies there are not only great, but some of them quite unaccountable. That all foreign works of any note should not be *purchased* for the Museum is not, perhaps, very surprising; that it should not contain all modern English ones of the class, which may of course be claimed from their publishers, is, indeed, astonishing, not to say incredible. Nevertheless, such is actually the case. Hardly will it be credited that our national library—one which does not disdain to give house-room to, and encumber its shelves with, children's books, school-books, and other productions of the same stamp, does not contain a copy of Hope's tasteful work on "Household Furniture." Still, such is the fact; and what is worse, it is by no means a solitary one. Frequently have I gone to the Museum with a list of about half-a-score of English publications that have appeared within the last half-dozen years, and sometimes have not been able to find even a single one of them. In some instances of works that have been brought out at different times, I have found the first "series," but not the following ones, or else the second or third, but not the preceding ones. If I mistake not, for I cannot at this moment speak positively as to any work in particular, such is the case with respect to Haghe's "Belgium," and Nash's "Old English Mansions." However, be it they or other publications of the kind, it is evident that there is great remissness in not making application to the publishers within the limited time. The consequence of such negligence is, the Museum library contains many broken series and sets. Speaking only on the report of others, I cannot vouch for the truth of it, but I have heard that within the few last years, several extensive purchases have been made by the Museum of both antiquated medical books and of Hebrew ones; neither of which classes will be thought to add to the usefulness of the library. What I can truly aver is, that my own collection of architectural works, small as it is, a mere drop in comparison with the boundless ocean of my wishes, contains several works that will be sought for in vain at the British Museum. I do not say that I feel particularly chagrined when, on turning over the catalogue for that purpose, I have ascertained that my own book-shelves contain treasures that are not to be found on those of our grand national repository, but I do say that a very sharp eye ought to be kept upon it; and were a sturdy besom to be employed to sweep away some of the rubbish, both animate and inanimate, which now encumbers the Museum, it would not be at all amiss. I say so, and you think so.

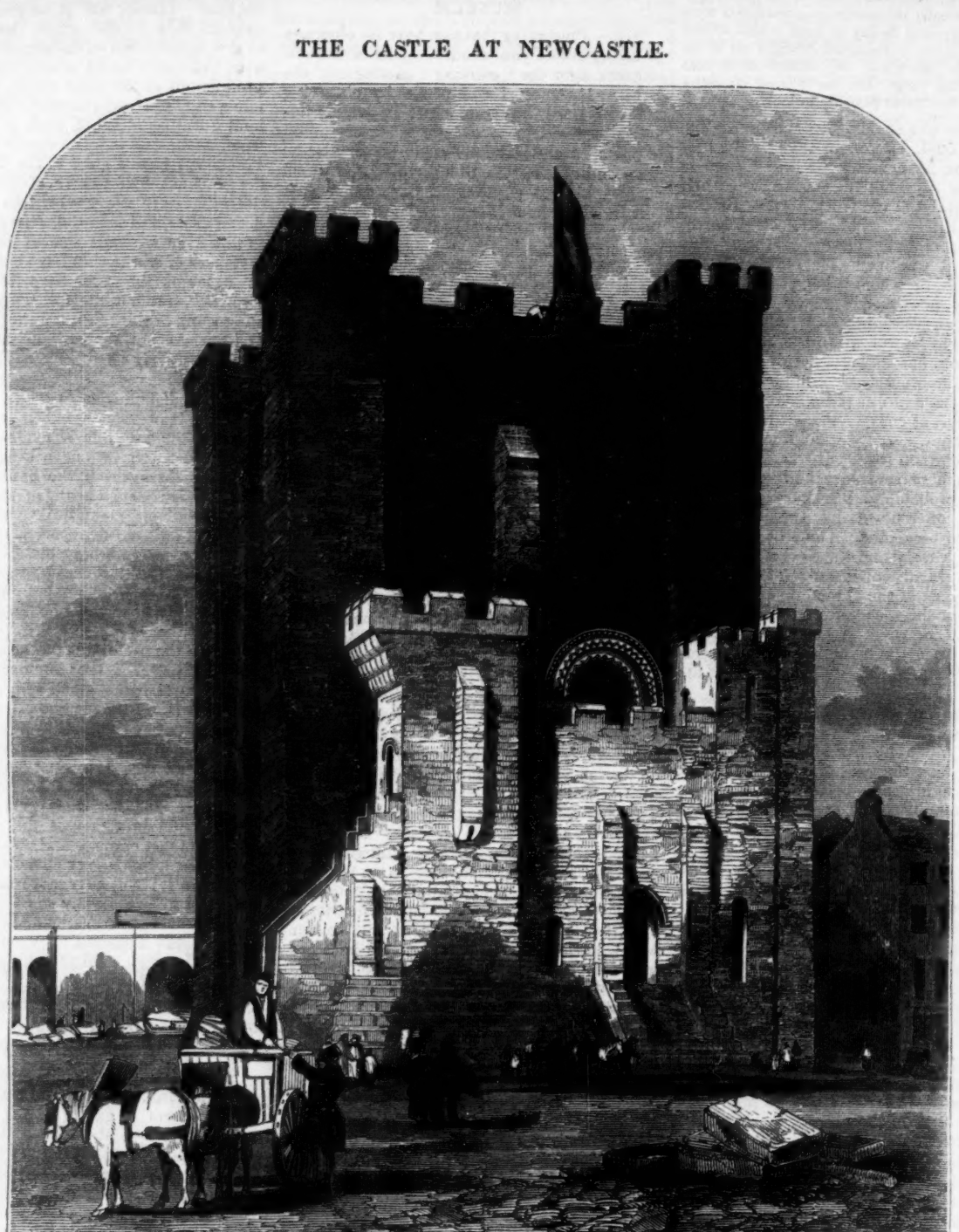
So yours, *ad infinitum*, P.

## THE "OCEAN MONARCH" AND THE FIRE ANNIHILATOR.

SIR,—You have made the public acquainted with the Fire Annihilator—both with its wonderful powers of extinguishing flame and the nature of its combustible materials, together with its mode of operation. Its stated moderate cost, and easy use and convenience, and also its safety, are satisfactory; but I am sorry to find on inquiry, that, although this useful and desirable object has been patented several years *it is not yet to be purchased at any price*. At a public meeting in St. Pancras, last Tuesday, where Lord Dudley Coutts Stuart, M.P., presided, we were informed that, for an outlay of five pounds, cost of the machines, (and a consumption of a few shillings only), four or five annihilators, thrown down between decks into the *Ocean Monarch*, would have at once converted the deadly vapours of the fire into innocent steam, — would have saved 173 lives, and have preserved as many more human beings from utter ruin and wretchedness, besides the preservation of 50,000*l.* worth of property. But, Mr. Editor, whose fault is it that 5*l.* have not been expended to so good a purpose? Does the law allow any one to tie up by patent that which is essential to the wellbeing of mankind? With the highest respect for ability, I cannot bring myself to think that it should be so, and I would press upon the gentleman who has made so great a discovery, that to disseminate health and happiness is far more meritorious than to make ingenious discoveries, and like Paracelsus, deny them to his fellow-creatures: I would even put it to him, how far may rest upon him the responsibility of every disaster from fire that, through his negligence or arbitrary proceeding, occurs nightly in this kingdom. In the hope that the horrors that surround us will soon be greatly mitigated by the ingenuity of man, and his zeal in the cause of humanity,—I am, Sir, &c.,

A PHILANTHROPIST.

THE CASTLE AT NEWCASTLE.




## RESTORATION OF THE CASTLE AT NEWCASTLE.

THE Norman Castle from which the town of Newcastle-on-Tyne takes its name, is placed on the summit of a piece of land which descends abruptly towards the river Tyne. The ease with which this position could be defended in all save one direction, seems to have recommended it to importance, most probably before the Roman occupation of this country. A bridge was built across the Tyne by one of Hadrian's generals, which gave the name of Pons Ælii to the site of the present town of Newcastle-on-Tyne. This name was changed during the same period to that of Monkchester. The subject of our engraving is the only remaining portion of the Norman Castle which superseded the Saxon buildings. It is generally supposed that the New Castle was erected by Robert, Duke of Normandy, eldest son of William the Conqueror, A.D. 1080. From that period until the reign of James the First the New Castle has held a prominent position in history; for a succession of ages it continued to be the residence of English and at times of Scotch kings, and has been the scene of many stirring and poetical events. The condition of the country no longer requiring the defence of stone walls, the New Castle was allowed to go rapidly to decay. A writer in the *Newcastle Journal* says: — "We find the incorporated company of tailors farming the castle at a yearly rent. What this worshipful company wanted with the keep of the castle of Newcastle-on-Tyne we cannot imagine; but certain it is, that all idea of military use seems to have been abandoned. In 1644 its roof had become wholly decayed; and Sir John Marley had it covered with timber, whereon he mounted his cannon. In subsequent years it fell into further disuse; and in 1782 the then owner advertised it to be let as a mill, which, in the advertisement published on the occasion, is recommended to be erected on the summit! Its eligibility for the purpose of grinding corn, bolting flour, and making it, are feelingly expatiated upon, and there is a happy suggestion, that as there is a good supply of water within the castle, it is rendered a very eligible situation for a brewery or any manufactory which requires a constant supply of water." This barbarous fate was fortunately prevented by the corporation purchasing the castle and making certain repairs, which were, however, not done in the best taste. Since the building has come into the possession of the corporation it has been used at various times as a prison, an hospital, and a school. The principal portions of the keep of the New Castle are perhaps more perfect than that of any other Norman military edifice remaining in this country; but the beautiful details were rapidly perishing; the rich groining of the chapel was sadly decayed, and the doorway leading to the great hall (seen midway in our engraving) so defaced, that it would not have been possible to restore it had not Mr. Dobson, the architect, fortunately, when a boy, made sketches when the details were in a more perfect state. By the exertions of the Newcastle Society of Antiquaries the corporation has commenced the complete restoration of the keep. The chapel and entrance to the great hall are completed, with the exception of the pavement and windows. It is not yet decided whether the pavement shall be made of ornamental tiles or plain stones. It is proposed to fill the windows with horn. The doorway leading to the great hall is finished, and a small oratory on the same platform is in progress. The battlements which are at present on the castle were placed there forty or fifty years since. It is proposed to expend 250*l.* a-year until all other parts are made perfect.

The only original approach to the keep was by a flight of steps leading to the doorway of the great hall; on the right of this doorway is seen the window of the small oratory. The great hall is a noble apartment, without decoration. Leading from the great hall is an apartment formed in the thickness of the wall, called the King Chamber; in this is a fine Norman fireplace: the wall of the great hall is perforated with chambers and passages leading to galleries, from which an enemy might be annoyed even when in possession of the very centre of the stronghold. The other portions of the building are of remarkable interest, and it is gratifying to find that the enlightened taste of the present time is likely to convey this relic of the past, in much of its integrity, to future generations: the keep of New Castle is for the future to be placed in the possession of the Newcastle Society of Antiquaries, for the purpose of holding their meetings and containing their valuable collection of British antiquities.

## THE LONDON FEVER HOSPITAL COMPETITION.

SIR,—Being very reluctant to enter into a discussion before the public on a matter which is in great measure personal, I have refrained from noticing any previous communications respecting the London Fever Hospital; but, in regard to that in your last number, as my silence may be liable to misconstruction, I beg briefly to state a few facts which I have ascertained from the secretary.

The proceedings of the committee, and their decision in favour of Mr. Mocatta's plan, were all superseded, in consequence of its being discovered that, in regard to the erection of the building, the authority and responsibility were not vested in them, but in the trustees, who had not hitherto interfered, and *they* were thus compelled to take the matter into their own hands. I learn further from the secretary, that the trustees, after a careful examination with professional assistance, and hearing the explanations of both parties, unanimously rejected Mr. Mocatta's plan, and adopted mine—both having been greatly modified. What influence the Earl of Devon might have had in that *unanimous* decision I know not; for, when other matters brought me into communication with his lordship, I studiously refrained from adverting to the subject; and I know of no grounds for attributing it to him any more than to the Duke of Somerset, another of the trustees, to whom also I have the honour to be well known professionally.

The event of the first decision shews how little Lord Devon's influence prevailed in the committee, where I understand there was a large majority of those present who voted against me; and, until it can be shewn that it was exercised with the trustees, I submit that there can be no ground for the imputation attempted to be fixed upon his lordship—the injustice of which is sufficiently repelled by his high character, and needs no refutation from me.

With respect to charges of plagiarism, &c., I feel that it would be impracticable to enter into a sufficient explanation in the columns of THE BUILDER; but, participating fully in the feeling evinced by Mr. Mocatta for upholding the honourable practice of our profession, and considering that a candid exposition before a professional tribunal is calculated to prove a wholesome check in cases of this sort, I readily accept his appeal to the Institute; and, with the same willingness that I acquiesced in the plan being presented to public notice in THE BUILDER, I am now ready to send all the drawings, with the instructions and documents, for the inspection of the council, or any member who may desire to examine them and judge for himself on the points in question.

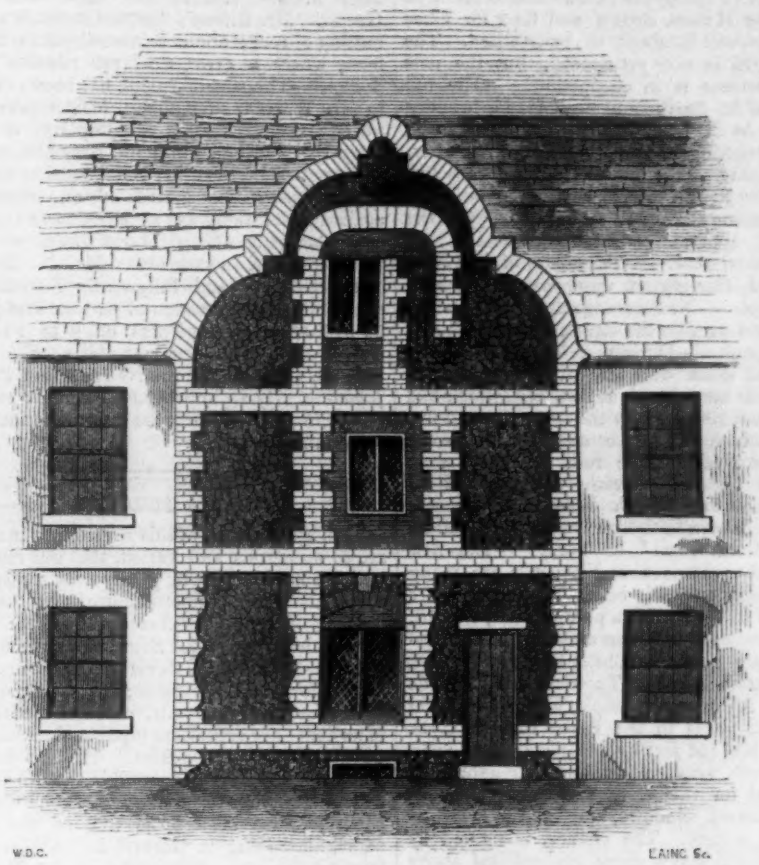
"Factis non verbis."

CHAS. FOWLER.

Gordon-square, August 29th, 1848.

*** We have received several other communications on this subject, including a strong view of the case in favour of Mr. Mocatta from Mr. Jacob Bell, but cannot find space for them. This is the less to be regretted, a tribunal for the decision of the question being now mutually agreed on.

## HOUSE AT ST. LAWRENCE, ISLE OF THANET.



W.D.C. LAING Sc.

## STREET ARCHITECTURE.

ANNEXED is a sketch of a cottage in the village of St. Lawrence, near Ramsgate, which may interest some of your readers.

The facings, strings, &c., are of red brick, and the wall itself of black flint. The whole has a very picturesque appearance. The house is tenanted by one or two poor families.

F. H. N.

## RESPONSIBILITY OF BRIDGE-BUILDERS.

### WESTON-SUPER-MARE COMPANY *v.* DREDGE.

IN this case, which was tried at the Nisi Prius Court of the Somerset Summer Assizes, on the 8th inst., the plaintiffs sued for repayment of 1,450*l.* paid to defendant, pursuant to agreement on a contract entered into by him for the formation of a bridge to connect Birnbeck with Weston, on terms, which, from the evidence of one of plaintiffs' own witnesses, 'would not allow' of the work being done according to the specifications, and the consequence of which undertaking was, as alleged, that "the masonry which was erected was not of sufficient strength, and the tower he had erected was entirely swept away by a storm, which was not a very violent storm." The whole work was to be completed for 10,000*l.*, by 1st May, 1848, but when that part of it which was done had been swept away, "they concluded that he was incompetent to carry out his contract, and after considering some different proposals respecting the reconstruction of the bridge, they determined to hold him to his agreement."

Amongst the witnesses called on the part of the plaintiffs were a builder, several masons, and a labourer, who all pretty much agreed, so far as they went, with the following evidence adduced by Mr. G. C. Ashmead, of Bristol, surveyor, who was of opinion there had not been a proper foundation,—that the stones of the foundation ought to have been cemented together to bear an erection of 40 or 50 feet; there was concrete described in the plans, but none in the work. From his observation he found that 10 feet were run up with dry masonry, instead of being cemented; according to the specifications, the outside facing should have been 6 feet thick; the masonry, however, was only from 18 inches to 2 feet thick. The plans showed the inside to be concrete, but there was merely rubble or loose stones; about 10 feet up was dry masonry, instead of cemented. The contract did not mention that it was to be cemented, but the plans did. It would be useless to cement after that: according to Mr. Fisher's evidence, and Mr. Dredge's own calculation, the value of the work done on 11th August, was 718*l.*, but he should deduct 60*l.* from that in consequence of the foundation not being cemented; he did not deduct anything for the absence of concrete, as Mr. Dredge's price would not allow for it: he also did not deduct for there being only two two feet of facing in thickness, as Mr. Dredge's price would not allow for six feet of facing. Taking into account what the witnesses had stated about the progress of the works, he should say at the time of their destruction (11th September) the value might be 72*l.* 8*s.*—Cross-examined: There was no appearance of concrete: if the work had been erected on dry land, away from the sea, he believed it would have fallen.

A Mr. Fisher had reported in August on the favourable state of the works, and on 11th September a second instalment would have been due to the defendant, who pleaded the refusal of the Company "to pay him a further sum of 1,050*l.* for work and value of materials on the ground."

Mr. Stone addressed the jury for the defendant, and called some witnesses. Mr. Crowder having replied, his Lordship summed up, and the jury returned a verdict for the plaintiffs, damages 1,400*l.*

SCULPTORS' AND STONE CARVERS' SOCIETY.—A number of operative sculptors and ornamental stone carvers have formed a society for the mutual advantage of its members, affording opportunities for study and improvement, which individually they could not obtain. They propose to establish a library immediately connected with the arts, form a collection of drawings and models, and obtain the delivery of lectures upon subjects bearing upon the pursuit. Mr. John Smith, of 37, Dartmouth-street, Westminster, is the secretary, and will give any information which may be required.

## NOTES IN THE PROVINCES.

The works at Lowestoft harbour are in more active progress than heretofore. A design by Messrs. Brown and Kerr for villas and a terrace is about to be realised. The large hotel is not yet opened, but the new marine terrace is in occupation.——The old church of St. Bartholomew, at Hyde, is under repair.—At St. Lawrence church, besides the ancient painting representing St. Christopher, the stripping of the plaster from the walls has brought to light a piscina, situated in the south wall, near the altar, and an ogee canopy in the east wall, apparently of the same date as the large east window.——The affairs of the Liverpool and Harrington waterworks have been wound up.——New arrangements as to numbering and naming the streets are in progress at Liverpool.——During a late storm some rounds of stone were thrown down from the spire of the new church at Runcorn, which had been raised 70 feet, with the scaffolding 20 feet higher, which also gave way, injuring some of the workmen. The roof and pews were damaged by the stones.——The new Baptist schools at Bilston have been opened. ——The Roman Catholics are about to build a 'splendid cathedral' at York.——The new baths and washhouses at Newcastle are ready for opening on 18th inst. The charges are proposed to be, 1d. for a plunge bath, and 2d. for a warm one; washing and drying apparatus, 1d. per hour.——Christ Church, Walker, was consecrated on Tuesday week. The building is extremely simple, but ecclesiastical in aspect. It is in the Early English style, with chancel (51 feet by 24), nave, north aisle, south porch, small vestry, and bell gable. It is lighted on the north and south sides by double lancet windows, and on the west by two long lancets. The chancel is lighted by three lancets, and a circle cinquefoiled above them, all filled with painted glass; and also by a small low lancet at the S.W. corner. The north aisle opens into the nave with four arches of two orders of chamfers and hood mouldings, which spring from circular piers, with richly moulded capitals and bases. The roofs of the chancel and nave are of a high pitch, open to the apex, and of a light construction. The sittings are all free, and confined to the nave and aisle. The pulpit and reading-desk are of oak, stained, like the rest of the woodwork. The stained glass, glazing, and illuminated scrolls on the walls, were by Messrs. Robert Lawson and Son, of Newcastle. Mr. A. B. Higham was the architect. and the contractor was Mr. Cail, of Newcastle. The cost is about 1,400*l*., of which 1,100*l*. have been subscribed.——The Imperial Slate Quarries at Nenagh, which employ 400 to 500 persons, have been in a critical position for some time, but are now likely to be established on a more active and permanent basis.

## RAILWAY JOTTINGS.

From a return presented, by her Majesty's command, to Parliament, it appears that during the six months ending 30th June last, 90 persons have been killed, and 99 injured by railway accidents in Great Britain and Ireland. On an average, we have thus a fellow-creature every day either killed or injured; the latter being often a worse case than the former, to which it after all but too often leads.——The Directors of the North-Western line lately allowed a pleasure excursion from the metropolis to Edinburgh and back to take place at the very moderate rate of 2*l*. for nearly 1,000 miles; and to Liverpool and Manchester and back, a distance of 440 miles, for one guinea. The fast coach to Liverpool alone, in 31 hours, cost 2*l*. 7*s*, outside seat. During the past three years the trains employed in the same excursions have carried upwards of 7,000 passengers—itself a pretty considerable stroke of business. In one of them alone there were 54 carriages, with 1,080 passengers. —— The Carlisle, Dumfries, and Glasgow line was opened from Gretna to Dumfries on Tuesday week. The Bill for the line was obtained in 1846, and the works commenced beginning of last year. They do not present any extraordinary engineering difficulty—the timbers on Lochar Moss, the rock embankment a mile and a half long at Dormore, the skew bridge across the Annan and Dumfries road, and the bridge of seven arches at Annan, being the most remarkable features. The contractors were Mr. Jeff, Messrs. Ritson, Mr. Ross, and Mr. Goslin. Mr. Ritson's contract includes a deep cutting of rock, about seven miles from Dumfries, where a great deal yet remains to be done.——The sum of 7,050*l*. has been awarded to Mr. Warren, of Killiney, for compensation for encroachment upon his property, at Killiney Hill, by the Dublin and Bray line, now in progress. Mr. Recorder Shaw acted as umpire in the case. The award of an arbitrator, against which there was an appeal, was 17,000*l*. The Company offered about 6,000*l*.——The *Monmouth Merlin* states that Mr. N. Bowen, of the Newport and Pillgwenlly Foundry, is engaged in the formation of an iron bridge, of 52 feet span, with girders of 9 to 10 tons weight each, and abutment plates of 5 to 6 tons weight each, for the Newport and Pontypool line. By an improved blower, six tons of metal, in place of three, are now melted at these works in three hours.

## GUTTA PERCHA.

The applications of this mysterious material are so numerous and varied, that our readers, we have no doubt, will gladly hear something of its history and manufacture. At the late meeting of the British Association for Science, Mr. Whishaw exhibited numerous specimens of it, in the shape of small thread, and large driving-bands for steam-engines; stout constables staves for modern heads, and fine medallions of ancient ones; speaking pipes, and inkstands; whips, and water-buckets. He also read a paper on the subject, reported in the *Athenæum*, which, after shewing that gutta percha was the concrete juice of a large tree of the same name, abounding in Borneo, &c., obtained by tapping the tree periodically by the Malays, stated that its introduction into this country was purely accidental, Dr. Montgomery having transmitted the first sample of it to the Society of Arts in 1843. The first articles of use made of gutta percha in this country were laid before the society in 1844, and consisted of a lathe-band, a short length of pipe, and a bottle case, which the reader had himself made by hand, having caused the concrete substance to become sufficiently plastic by immersing it in hot water. It was soon adapted to commercial uses; and from the period mentioned to July 11th in the present year, between 600 and 700 tons had been imported for the Gutta Percha Company. From 20 to 60 tons were now regularly imported every month. It appeared that the only pigments that could altogether be relied on to be used with gutta percha, without rendering it brittle, were orange lead, rose pink, red lead, vermilion, Dutch pink, yellow ochre, and orange chrome. Under the influence of heat and pressure, gutta percha would spread to a certain extent, and more so if mixed with foreign matters. The best composition for increasing the pliability of gutta percha was that formed in conjunction with caoutchouc tar, and next in order that of its own tar; and the best material at present known for moulding and embodying was obtained by mixing gutta percha with its own tar and lamp-black. In describing the process of manufacturing gutta percha, the author observed, that rude blocks of the material were first cut into slices, by means of a cutting machine formed of a circular iron plate of about 5 feet in diameter, in which there are three radical slots furnished with as many knives or blades. The blocks are placed in an inclined shoot, so as to present one end to the operation of the cutters. The slices are then placed in a wooden tank, containing hot water, in which they are left to soak until found in a plastic state. They are afterwards passed through a mincing cylinder, similar to that used in paper-mills for the conversion of rags into pulp, and then thoroughly cleansed in cold water tanks; the water, in cases of impure gutta percha, being mixed with a solution of common soda or chloride of lime. It is next put into a masticating machine, such as is used in the manufacture of caoutchouc, and then pressed through rollers; thus being converted into sheets of various width and thickness. When necessary, the sheets are again masticated, and again passed through rollers. These sheets are subsequently cut into boards by vertical knives, placed at the further end of the table, along which the sheets are carried by a cloth or web to another roller, round which they pass, and are cut into the required widths. The bands or straps are then removed, and coiled up ready for use. Driving bands for machinery are thus made, and shoe soles and heels are stamped out of similar sheets of gutta percha. In making tubes or pipes, either of gutta percha or any of its compounds, a mass of gutta percha, after being thoroughly masticated, is placed in a metal cylinder furnished with a similar piston, by which it is pressed down into an air box, kept hot with steam, which has at its lower end a number of perforations, through which the plastic material is forced into a cup, whence it passes out, round a core, into the desired tubular form, and thence through a gauge to the required size, and into a receiver of cold water, being drawn to the other end of a long trough by a cord passing round a pulley at the far end of the trough, and returning to the person in attendance on the machine, who gradually draws the pipe away from the air machine. Thus tubes of considerable length and diameter are made to a very great extent, and are used for the conveyance of water and other liquids, and are now under test for the conveyance of gas.

## BOILER EXPLOSIONS.

The recent prevalence of boiler explosions has called forth hints in various forms for their prevention, among which is a pamphlet* embodying the results of the experience of a civil engineer (Mr. William Stewart) for the last twenty years, with all sorts of engines—not an experience in the practice of explosion we mean, but in its prevention, by the adoption of those rules of prudence which twenty years' experience cannot but force on the notice of any man of an observing and intelligent turn of mind.

Amongst the main causes of explosion he enumerates the tendency of the bottom of the boiler to give way to the expansive force of the steam sooner than the top, the safety valve in such case being perfectly useless;—want of water in the boiler;—excess of water;—attachment of the safety-valve by slime and dirt;—the very opening of the valve in some cases;—the formation of explosive gases from decomposition of the water, as well as of steam from its mere expansion, operative in such cases as that of the red heating of the boiler from want of water.

The bottoms of boilers, he observes, *should* be made of inflexible material, with an arch of perfect regularity, since sheet-iron, in cases of want of water, softens and weakens, bulges and bursts, while the upper part resists the pressure. To prevent the occurrence of such cases, of course a sufficient supply of water, and a safety-valve in good order, are requisite; but the bottom should be kept free from incrustation. When a want of water occurs, if the flues are not yet red hot, the engine should be kept in motion, and a supply slowly pumped in; but if the flues be anything red, the fire must be directly withdrawn, and the boiler cooled, *before* attempting to replenish with water, the engine being still kept in motion, and the safety-valve on no account moved, as a rapid escape of steam will set the remaining water in ebullition, cause it to fall in drops on the red-hot surface, and suddenly expand into volumes of steam, or even be as suddenly decomposed into the still more tremendous volume of its constituent gases.

Where the boiler is too full of water, the heat may be raised almost to a red heat without generating steam, unless the safety-valve be opened, when there will be imminent risk of an explosion from the sudden liberation and generation of steam at so high a heat. To prevent such an accident, the fire must be checked or withdrawn till the temperature of the water be reduced below the boiling point, and then, but not till then, the surplus quantity of the water may be withdrawn.

Accidents have even occurred when there was neither steam nor water in the boiler, nor fire underneath, but the previous heat must have decomposed water into gases afterwards exploded by a candle, &c.

* Longman and Co., London.

## GLASGOW CATHEDRAL.

IN course of the 'restorations' for some time in progress at Glasgow Cathedral, an intention is said to have been expressed by Government to demolish the ancient north-west tower, which is regarded by the citizens not only as an important and characteristic feature of the structure, as it has existed for at least several centuries, and as it has been described by their classical poet and novelist, Scott, but as 'one of the ancient land-marks' of the city. A memorial, signed, it is said, by ten architects and ten other citizens, has accordingly been presented to the local authorities, deprecating such a sacrilege. "The tower," say the memorialists, "is considered by many persons to be the most ancient part of the building, and of a form and in a situation characteristic of the ancient Scottish Cathedral. Mr. Wade, a competent authority, in his volume on ancient and modern Glasgow, thus describes it:—'The north-western tower is of a much plainer character. In the upper part of the tower the antiquary may treat himself with some curious grotesque sculpture, coeval, no doubt, with the most ancient portion of the fabric;' and the same author states that a second and corresponding tower was evidently intended.

Should the tower be removed, the western front, if completed on the north as it is now on the south, will have a low and diminutive character. It is therefore imperative to have a commanding feature in that part of the elevation; and while the memorialists conceive that the western tower raised to its former height would fully answer this purpose, it would be less expensive than any other that could be reared to be equally effective.

While the memorialists highly approve of the judicious renovation of Glasgow cathedral, they would suggest that farther alterations be avoided as much as possible, and the substitution of modern for the ancient architecture of the building, except where required by decay, be prevented."

The memorialists, therefore, proposed that a meeting of the citizens should be called, or the influence of the authorities with the Government exerted for its preservation.

## DWELLINGS FOR THE POOR, FACTORIES AND BATHS.*

*The Dwellings of the Poor.*—Among the remedial measures of a private character that can only be reached by the inculcation of an enlightened policy, the improvement of the condition of the dwellings of the poor holds the first rank. I have already adverted to the conduct of the landlords of this description of buildings, and the consequences of their oppression, but I would add a few words to assure them that even a considerable expenditure upon their property would be economy compared with the narrow parsimony and neglect that is adopted towards their poor tenants. Just in proportion with the improved condition of the habitation is the occupant's ability to meet the demand for rent.

The repair and white-washing of these habitations, the provision of water, and efficient house drains, proper receptacles for dust and dry refuse, and the substitution of a decent water-closet to each for the foul cesspool in common for many, would be the largest gain to the landlords themselves, not only in the increased ability to pay rents, from the improved condition of the inmates, but in the willing payment of higher rents for these benefits, infinitely increased in comparison to the cost of the improvements. I would caution all such men who thus neglect the duties imposed upon them, that the continuance of that neglect will surely fall heavily on themselves. A strong movement has set in among the better classes to beat such oppressors out of the field, by the substitution of good, wholesome dwellings for the poor.

Already have these been proved an excellent investment of capital, the buildings being eagerly sought, and the speculation paying from 5 to 9 and 10 per cent. profit. With such results, it is to be hoped that the laudable example will be followed in every town throughout the kingdom, and that even the poor, with these examples before them, will be able by combination to do much to help themselves.

*Improvement of Factories.*—I would next appeal to manufacturers and employers of assembled numbers of the industrious classes, on behalf of themselves and of those employed.

I have had the pleasant duty already to remark on the absence of those injurious influences in the establishments of Ipswich, with which the labouring classes are so frequently and cruelly oppressed in the places provided for their labour; but so much remains in their hands for good, that I would not have them stop there. If property has its duties as well as its rights, this is especially so where the influence and example of masters are capable of exerting a constant effect on the conduct of those in their employ.

Factories and workshops should not only be convenient for work, cleanly, well ventilated, and provided with every means of decency and comfort, but manufacturers would do well, also, to surround their work-people, as far as practicable, with greater personal conveniences and objects of enjoyment, and moral advancement. The establishment of dining-rooms and soup-kitchens would be most beneficial and economical to the work-people, by keeping them from the public-house; and in large establishments, where women are employed, much good would result also from the provision of nurseries, where the infant children might be tended and cared for while the mothers were engaged at work, and the fearful infant mortality arrested that now results from the administration of drugs to keep them at rest during the hours of labour.

*Baths and Washhouses.*—The establishment of baths and washhouses, also, is another important power in the hands of manufacturers with which much good may be effected. I believe that the Act for the public provision of baths and washhouses will be productive of much benefit to the humbler classes, but I cannot help thinking that the tendency to provide large central and costly establishments will strip the provision of much of its usefulness. The great object should be to *diffuse* the advantage. The poor cannot afford, neither will they take the trouble, to travel long distances for a benefit of which they have yet to learn the full importance. The object must be rendered easy of accomplishment, and the habit fostered, or it will droop.

Small, unpretending, and economical establishments, in different localities, will be infinitely preferable to one extensive erection; and in most towns and districts, I believe that the provision might be advantageously made in combination with manufacturing establishments. The very arrangements of factories, generally, admit of the most economical addition of this provision, there being abundance of waste water for the purpose,—steam-power affording the requisite supply of heat, without increased cost. A substantial shed, fitted with the necessary appliances, would generally suffice for the great object sought, and enable such a small rate of charge to be levied as to insure their being made self-supporting by more general use.

The whole of such places of improvement, appertaining to a factory, should be surrounded with pleasurable objects, trifling in themselves, but exercising an important influence—such as cheap works of art, good engravings, and moral sentiments conspicuously printed. The presence of these things during the cessation of labour must attract the attention and foster good and ennobling impressions.

Such additions to a factory should, with the superintendence of the employer, be under the guidance and regulation of the work-people themselves, who would thus be brought to feel an interest in, and responsibility for, their good order and maintenance. They should be encouraged, moreover, to frame and maintain rules for the preservation of peace and good conduct — especially condemnation of drunkenness and bad language—and should be encouraged to appropriate a small part of their wages for insurance against sickness and death.

The influence of the employer's exertions for the welfare of his work-people may extend most beneficially beyond the sphere of the factory, by inculcating the importance of their living in good healthy dwellings, and impressing on their attention the vital importance of attending to sanitary arrangements.

The employer might do much also to encourage this feeling, by the provision of model cottages, and by assistance in small objects of improvement, as well as by a system of rewards and periodical inspection. This may appear a somewhat formidable list of objects for the attention of the manufacturer, but the improved physical and moral condition of his work-people would amply repay him any amount of labour and cost that he could possibly bestow upon them.

The partial operation of these provisions has been attended with the utmost success in many places, and the contrast to the usual state of things is so remarkable on visiting a factory, where such attention is paid, that it is almost like visiting another race of beings.

The extravagance of neglect is the most wasteful and cruel of all extravagance. The labour of one contented, willing, and well-conducted workman, is worth that of many of the poor weakly, depressed, and immoral creatures, that are brought to such low ebb by the cruel physical conditions to which they are bound.

* From a report on the present sanitary condition of the town of Ipswich, and the means to be adopted for its improvement, by Mr. Henry Austin, C. E.

## ARCHITECTURAL EXAMINATION.*

### SECOND CLASS.

1. Name the several conveniences for a farm-house and farmery, necessary for a farm of 400 acres?

2. How should liquid manure tanks, and the drains communicating with them, be constructed?

3. How should a dairy be constructed, when detached from the house and offices?

4. Shew the method of constructing rain-water tanks, for preserving water in a fit state for use.

5. How should openings to stairs, and hearths, be *trimmed?*

6. Shew the way of setting out *dog-legged* stairs, and how the steps are secured to the strings.

7. How should half-paces and carriages for stairs be constructed?

8. Shew the manner of bracketing waggon-headed ceilings and cornices.

9. Describe the various ways of hanging inside shutters to windows?

10. Shew the method of constructing deal-cased frames with oak-sunk sills, and sashes double-hung.

11. How are panelled doors framed and put together? what precautions are necessary in laying in mouldings?

12. What is the usual way of proportioning rooms?

13. How should the size, and position of windows to dwelling-houses be regulated?

14. Shew how architectural ornament may be made to possess the semblance of utility.

15. Give examples of the proper finishings of external walls to houses.

16. How are brick and stone cornices measured?

17. Shew in what way the form of gutters to houses may be made to agree with the proper form for conduits.

18. Shew the arrangement proper for timbers in partitions to sustain floors.

19. Shew how solid, wrought, rebated, and beaded door-frames, should be put together.

20. What is the object of covering the outside of brick walls to houses with cement? State the precautions necessary in executing the work.

21. What number of 12-feet deals will it require to make 50 one-inch proper ledged doors, each 7 feet high by 3 feet 4 inches wide?

22. What number of duchess slates will it require to cover 50 squares of roof, when laid to 2½-inch gauge?

23. How many 16-feet battens will it take to cover 150 squares of framing, with ¾-inch weather boarding *edges splayed?*

24. How should doors be placed and hung, when opening into rooms having windows and fire-places?

25. Describe the Venetian style of architec-

* The following is a continuation of the questions submitted to the students in the College of Engineers, at Putney—Mr. Ranger's class, at the last examination. See p. 365, *ante*.

ture. Shew the modifications necessary in applying the Venetian style to street architecture of the metropolis.

26. Name the style in which the use of columns in façades is interdicted, and the means taken for imparting grandeur to the composition, in lieu of using columns.

THIRD CLASS.

1. The true strength of materials in an edifice depending rather upon their distribution than upon their quantity, shew how the present mode of arranging the distances between rafters and floor-joists may be advantageously altered.

2. State the principles which should be observed by an architect in adapting the models of antiquity to buildings in this country, with a view to ornament and utility.

3. Describe the essential requisites for a labourer's cottage: sketch a plan for a model cottage, shewing the relative position of the doors, windows, fire-place and furniture.

4. It is important in making mortar that the greatest degree of solubility should be imparted to the lime with a minimum quantity of water; shew in what manner this object may be practically accomplished. Describe the mode at present in use for the above purpose.

5. Name the several precautions that ought to be taken to prevent the stone-work from crumbling and mouldering within a few years after the erection of the edifice: give instances of the neglect of these precautions from public buildings in the metropolis and elsewhere.

6. Explain the manner in which the alternate dilatation and contraction of iron may be rendered practically useful as an agent in the restoration of works, and mention examples of its success.

## Miscellanea.

THE VACANT SPACE IN DOWNING-STREET.—During the late debate in Parliament on the "Estimates," Sir Robert Inglis said it was very desirable that the large and at present unsightly area on the south side of Downing-street should be appropriated for the erection of a plain, solid, substantial building, for all the *Commissions* appointed, so that it should not be necessary to have recourse to the occupation of houses in George-street, or elsewhere, for them. There ought also to be a building more worthy of the important business transacted in the *Foreign and Colonial Offices*. It was to be hoped that it was not generally known that the Foreign-office of England consisted of five separate private dwelling-houses, in such a ruinous state that the documents of the department had to be removed a floor lower, because the weight of them would hazard the stability of the building.

ELFORD, LITCHFIELD.—Two or three interesting events occurred at Elford, near Litchfield, Staffordshire, last week. The foundation stone was laid by Mrs. Puget (the rector's lady), of the new chancel and nave of the church there. Afterwards a new infant school, composed, in part, of the old church materials, was opened, and an entertainment given to the children, with fireworks and other rejoicings. On the following morning, a very good ridge-shaped grave-stone was discovered, while excavating within the boundary of the old church nave, having a raised (double) cross-fleury, with enriched stem upon it; the upright cross had been wilfully mutilated, and was obliterated; it was two feet below the surface, but not far from an original pavement. It is in local grit, 4 feet long, by 18 inches head, 14 at foot: a very slight slope 8 to 10 inches thick: a bead runs round the border. Some think it is a child's grave-stone, though a cross. Mr. E. Richardson, the sculptor, is engaged here in the restoration of some interesting monumental effigies, eight in number, of the Ardernes and Stanleys, from Richard II. to Henry VIII., all in alabaster; together with two elaborate table tombs, canopied (one the Ardernes'), and containing twenty-two statuettes, well proportioned, and with an admirable, if not unknown variety of the costumes of the reigns of Henry IV. and V. The sculptor proposes, if sufficient support can be obtained, to publish these works in quarto, to match his "Templars."

A DISTRICT COURT OF SEWERS was held on Thursday last, at the office, No. 6, Bethnal-green, for the purpose of hearing appeals against the sewer-rates made for the Tower Hamlets division. Upwards of 2,000 notices of appeals had been given, but not more than 400 cases were entered into, the parties not being in attendance when called. Sir E. N. Buxton, M.P., was in the chair. Several of the parties summoned stated that they had objected to the payment of the rates, not on account of their being illegally made, but with a view of bringing their cases of individual grievance immediately under the notice of the commissioners. They stated that they had for several years paid sewers-rates, and although they had complained of want of proper drainage time after time to the old commissioners, that no steps had been taken to remedy the evil. The court said that there was every disposition to listen to all complaints, and, as far as at present lay in their power, to remedy them; but to enable the commissioners better to judge of what was required, the court recommended that a book should be kept at the district office, in which all parties having complaints to make as to drainage should enter the same, so that their surveyors might investigate the matter. The court also gave notice to householders that full explanation as to the proper course to be taken for cleansing cesspools and drains in the quickest, cheapest, and least offensive manner, would be given without any charge, on application at the chief office in Greek-street, or at any of the district offices.—The great majority of the appeals were on the ground of poverty.—The following is an abstract of the new rate for the Holborn division, of 6d. in the pound:—

| | | | |
|---|---|---|---|
| Field-lane sewer ..... | £640 | 5 | 0 |
| Leather-lane sewer ..... | 614 | 5 | 6 |
| Gray's-inn-lane, first part.... | 3,462 | 18 | 6 |
| Ditto second part .. | 3,056 | 8 | 6 |
| Southampton estate sewer .... | 1,919 | 15 | 0 |
| Northern sewer ..... | 5,907 | 4 | 6 |
| Chancery-lane sewer ..... | 559 | 13 | 6 |
| Holborn sewer..... | 3,008 | 17 | 0 |
| | £19,169 | 7 | 6 |

DATES ON BRASSES NO AUTHORITY FOR COSTUME.—Mr. Waller said, in his paper read at Worcester, and mentioned by us last week, that dates on brasses of themselves form no criterion or authority for contemporary costumes or period of execution. An instance occurs of *two* bearing the same date whose costume and execution differ from each other by sixty years. (*Sir John de Lisle, Thruxton, Hants, and Sir John de Cobham, Cobham, Kent.*) In order, therefore, to arrive at a correct notion of the real date of the execution of the monument, a careful comparison should be instituted between as many examples of the same date, or thereabouts, as can be obtained; thus the true one will be easily confirmed, and the causes of departure from it probably determined. *Blanks* are often left for after-insertion of *dates*, and never filled up. These are very useful examples; for as it usually happens that these are put up by a survivor, it is pretty certain to be contemporary or nearly so; thus a point to start from is often obtained in settling the true chronology of dates. On the subject of costume, brasses present great facilities for study, especially in defensive armour, where the gradual development from the ringed hauberk, &c., to an entire panoply of steel plates, may be traced in all its changes from the thirteenth to the seventeenth century, when it fell into disuse.

GAS.—An invention has been patented by Messrs. John Watson and Edward Cart, of Hull, for the regulation of the supply of any liquid material to gas retorts, for the evolution of gas, according to the quantity withdrawn from the gasometer.—Dr. Arnott gave it as his opinion, in evidence on the case of explosion at Albany-street, that an escape of gas was quite sufficient to explain the phenomena to the full extent; and that, as gas ascends to the top of a room, had Captain Loten, in his endeavours to see, by the light of a candle, where the gas escaped, only lowered the candle in place of raising it above his head, no explosion might have occurred. The surest remedy, or preventive rather, he regarded as a ventilator at the ceiling, opening into the chimney, 'which is always an air pump.'

PROJECTED WORKS.—Advertisements have been issued for tenders by 15th inst., for the erection of a new asylum wing to the hospital at Westbourne Green; by 5th, for the several works to be executed in building an addition to the workhouse in Gray's Inn-lane; by 7th, for building 3,245 feet of sewer in Holloway and Seven Sisters-road; by 6th, for sinking shafts and driving headings, and for forming 2½ and 3½ miles of railway for the Vale of Neath Company—separate tenders; by 14th, for 356 yards strong cast fall pipes, 87 yards ornamental railing and gates, area gates, and other work, for nine houses in Leeds; by 23rd, for the construction of two cast-iron swivel bridges for the Victoria dock, Hull; and by 5th October, for iron tanks, &c., for the Royal Navy.

THE VERNON GALLERY.—The trustees of the National Gallery directed their architect, Mr. Pennethorne, to examine and report upon the facilities for placing and exhibiting the Vernon collection in the lower rooms of the gallery in Trafalgar-square. We understand his report to be, that the rooms in question are totally unsuited to the reception of the pictures, with regard both to light and space. The space required for their proper display is three thousand square feet. Mr. Pennethorne has, we believe, suggested to the trustees to erect a plain temporary building in one of the parks—a building that will not be required to last more than ten or twelve years; and to apply to Parliament for an annual grant of 15,000*l.* or 20,000*l.* to accumulate during these ten or twelve years, by which means a fund will be formed for the erection of a National Gallery; and the site he recommends is Cleveland-row, the leases of a number of houses in which will expire about the year 1860, when the ground will become the property of the crown.—*Art-Journal.*

BIRMINGHAM INDUSTRY.—The cottages and humble dwellings of England are indebted to Birmingham and its neighbourhood for a greater amount of neat interior fittings, useful utensils, and ingenious knick-knacks of all kinds, than fall to the lot, perhaps, of any other country in the world. Let the reader take his eyes off this sheet for a few minutes, and glance round the room in which he may be sitting—we care not whether it be in a house of 10*l.* or 100*l.* a-year rental: let him look at the doors, the windows, the fire-place, the cupboards, or closets, the furniture, the implements and vessels, the ornaments or decorations—wherever he may look, Birmingham is before him. There is scarcely a room in this country, except in the most poverty-stricken hovel, that does not contain some article of Birmingham manufacture. Let him then go from houses to persons: let him look at English dress, and all its endless variety, and then say whether there is one such dress that is not indebted to Birmingham for something or other in a metallic form. It may be trivial, it is true; but this very triviality only the better illustrates the minute applications which are now made of metal. Will not a beaver or silk hat escape this enumeration? Look at the little buckle that fastens the band. Are not our boots excepted? Look at the nails and 'tips,' or at the tags of laces. Female attire? Let the buttons and buckles and clasps, the pins, and hooks-and-eyes and lace-holes, the combs and bracelets and armlets, the rings and brooches and necklaces—let them all give evidence to the part which Birmingham and its vicinity have taken in decking out any and every Englishwoman. If you write a letter, look at your desk, your inkstand, your steel-pen, your pen-holder, your wafer-stamp, your seal, your candlestick or taper-stand, and think how far Birmingham has been concerned in them. If a lady, seated at her work, would gossip a little about her work-trinkets, the needles, pins, thimble, bodkin, piercer, crochet and knitting-needles—all would tell of Birmingham, or in some few instances of Sheffield or Redditch. If you walk abroad, and rain befall you, ask who made the metal work of your umbrella. If you ride on horseback, think where the bridle-bit, the stirrups, and the buckles came from. In short, do anything, go anywhere, buy, beg, borrow, make, alter, eat, drink, walk, ride, look, hear, touch—you cannot shake off Birmingham for many minutes together.—*The Land we live in.*

VENTILATION OF MINES. — At the late meeting of the British Association, at Swansea, Mr. P. Struve read a description of a new mine ventilator, wherein he proposes to substitute for the present system of furnaces a ventilator worked by a five-horse power engine, calculated to take out of a mine an unlimited quantity of air. This he does by converting the whole area of the upcast pit into an air channel, which he connects with his ventilator by means of a culvert of a similar size. The ventilator consists of two large air chambers, something like gasometers, which he causes to move up and down in water contained in a tank constructed of masonry; the chambers balance each other, and are surrounded with outside cases so as to form double pumps: the inlet and outlet valves, when open, present the same amount of area for the ingress and egress of the air as the upcast pit, so that the only resistance to be overcome in ventilating the mine is what arises from the friction of the air in the passages of the mine, and in the parts of the apparatus, which would be of small amount. He described one now erecting on this principle at the Eagle's Bush Colliery, calculated to pass through that mine 40,000 cubic feet per minute, the cost of which would be about 4,000*l*.

THE ROYAL STABLES AT WINDSOR CASTLE.—Sir, observing that the book you quoted states that the walls of the Riding House which had been affected by the *dry-rot* had recently been covered with "a composition of saw-dust and india rubber," — perhaps you will pardon me for saying, that if "*saw-dust*" had been a component part of the composition the dry rot would again attack the building, from the capillary attraction in the wood saw-dust. The covering which is alluded to is a mechanical combination of prepared cork and caoutchouc, called "kamptulicon," from the Greek words kamptos (flexible) and ulikos (material), both non-absorbents. The kamptolite (or elastic stone) pavement laid down in the Admiralty court-yard is an entirely different composition, worked under a separate patent, and has long been the prey of *lawyers* in a chancery suit, to the serious injury of all concerned, more especially your obedient servant, GEORGE WALTER.

## TENDERS

For St. Marylebone Baths, &c.; Mr. Christopher Eales, Architect:—

| | |
|---|---|
| Smith | £10,146 0 0 |
| Fry and Son | 9,946 14 3 |
| Benham and Co. | 9,918 0 0 |
| Haward and Nixon | 9,647 0 0 |
| Cooper | 9,522 0 0 |
| Higgs | 9,438 0 0 |
| I'Anson | 9,407 0 0 |
| Piper | 9,267 0 0 |
| Burton | 9,245 0 0 |
| Holland | 9,120 0 0 |
| Patrick | 9,070 0 0 |
| Haynes and Co. | 8,941 16 10 |

## TO CORRESPONDENTS.

"*Varnish.*" — "The least coloured varnish is that of copal." (Graham.) It is generally prepared by melting the resin, mixing it while hot with a little drying oil, and adding gradually oil of turpentine, in quantity equal to the resin. "When copal is dissolved in any volatile liquid, and spread thin upon wood, metal, paper, &c., so that the volatile menstruum may evaporate, the copal remains perfectly transparent, and forms one of the most beautiful and perfect varnishes that can well be conceived."—(*Edinburgh Encyclopædia.*)

"*Constant Subscriber*" (Ipswich). — Keene's cement would probably answer the purpose.

"*W. H.*"—We cannot undertake to pronounce on the correctness of estimates. In the present case, however, we may say that there seems no reason why the work required should exceed the sum named.

"*Civis.*"—Herr Zwirner is the architect: address, Cologne Cathedral.

"*A Non-50sl. Architecturally-Educated Practitioner.*"—A simple denial of any statement, by any anonymous writer, is, of course, worth nothing. There are many able and honourable men in the class he defends, and there are many who are otherwise.

"*Architect*" (Sunderland), will see the proper course marked out in our leading article.

"*T. R. M.*"—We shall be happy to look at anything which is sent, but do not promise to make use of it.

"*L. B.*"—If a copy be forwarded it shall be looked to.

*Received.*—"J. P.," "J. T.," "G T. D.," "X.," "P. A.," "J. B.," "Grim," "P. N.," "B. V.," "W. J. H.," "H. H.," "B. B.," "S. M.," "G. W.," "E. S.," "S. H.," "B. C.," "A Brassier," "G. P.," "Subscriber" (Liverpool), "J. N." (Bedford), we have not time to comply. "The Geometrical Mosaic of the Middle Ages, with brief Notice of the Art," by M. D. Wyatt, Architect (Day and Son, 17, Gate-street, Lincoln's-Inn Fields); "Rambles about Bath and its Neighbourhood," by James Tunstall, M.D., 2nd edit. (London, Simpkin and Marshall—M. Pocock, Bath); "Condition of the Working Classes," by H. G. Cooper (London, Groombridge and Sons); "Descriptive Atlas of Astronomy," by Rev. Thos. Milner, Part V. (Orr and Co.); "The Man in the Moon," for September; "Dolman's Magazine," &c.

"*Books and Addresses.*"—We have not time to point out books or find addresses.


## ADVERTISEMENTS.

TO DRAUGHTSMEN AND CIVIL ENGINEERS.

**H. MORRELL, BLACK LEAD PENCIL** MANUFACTURER, No. 149, Fleet-street, London. These Pencils are prepared in various degrees of hardness and shades.

| | |
|---|---|
| H H H H for drawing on wood. | F F light and shading. |
| H H H for architectural use. | F for general use. |
| H H for engineering. | B black for shading. |
| H for sketching. | B B ditto ditto. |
| H B hard and black for drawing. | B B B ditto ditto. |
| | B B B B ditto ditto. |
| M medium. | |

Sold by all the principal Stationers in town or country.

**IRON ROOFING WORKS, SOUTHWARK.**—JOHN H. PORTER, manufacturer of Iron Roofs and Buildings, Iron Hurdles, and other fences, and iron work generally. Lists of prices and estimates furnished upon application.—Office, 2, Adelaide-place, London-bridge, City.

**NAILS and IRONMONGERY** from BIRMINGHAM.—To BUILDERS, ARCHITECTS, &c.—Nails, Locks, and every description of Builders' Ironmongery, of the best quality, supplied at the lowest Birmingham prices, by FREDERICK BLYTH, Patent Cut Nail Manufacturer and General Factor, Edmund-street, Birmingham. Lists of prices forwarded upon application.

**CAMDEN TOWN.—R. FULKES'S** RANGE and STOVE MANUFACTORY, 91, Park-street.
Elliptic Stoves, 3d. per inch. Register Stoves, 6d. per inch.
Self-acting Ranges, with Oven and Boiler and Revolving Shelves, 3 ft., 55s.; 3 ft. 6 in., 60s. Chimney Bars, 14s. per cwt.
Coppers, 1s. 2d. per lb. Sash-weights, 6s. 6d. per cwt.
Builders' Ironmongery of all descriptions equally low.

OLD-ESTABLISHED WHOLESALE IRONMONGERY WAREHOUSE. Kitchen-ranges, and Stove-grate Manufactory 18, Cross-street, Walworth.

**JOHN GRICE** most respectfully solicits the attention of Architects, Builders, and Carpenters, to his Stock of Black and Bright Stoves, Kitchen Ranges, &c., &c.
Black Registers, from 6½d. per in. and upwards.
Bright ditto with Black and Bright Bars, 3l. 10s. and upwards.
Self-acting Kitchen Ranges, with Oven and Back Boiler, Wrought Bars, Fittings Bright:—

| 3 ft. | 3 ft. 6 in. | 4 ft. |
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| 3l. 3s. | 3l. 14s. | 4l. 5. |

All articles made on the premises and warranted, and delivered free of expense within five miles of London. Bell-hanging in superior style, hung in secret, 9s. per pull.

**TO BUILDERS and CARPENTERS.**—Elliptic Stoves, double backs, 3d. per inch. Registers, 6½d 7d., 8d. per inch.
Cottage Ranges, with Ovens and Boilers, 3 ft. 2 in., 40s.; 3 ft. 4 in 42s.; 3 ft. 6 in., 44s.
Self-acting Ranges, with Circular Oven and Back Boiler, best Wrought Bars and Bright Fittings,
3 ft., £3. 3s. 3 ft. 6, £3. 12s. 6d. 4 ft., £4.
Best Patent Cut Clasp.

| 4½d. | 5d. | 7d. | 10d. | 1s. 9d. | 1s. 8d. per 1,000. |
|---|---|---|---|---|---|
| 3d. | 4d. | 6d. | 8d. | 10d. | 20d. |

Best Sheet Floor Brads 12s. per cwt.
Best Town Glue 28s. Do. Scotch, 32s. per cwt.
Best Patent Sash Line.

| 4s. 3d. | 5s. | 6s. 6d. | 7s. 6d. | 10s. | 12s. per gross. |
|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 |

At F. R. WILLIAMSON'S IRONMONGERY and STOVE WAREHOUSE, 35, Chiswell-street, Finsbury-square.
Lists of Prices had on application at the Warehouse, or by letter pre-paid, inclosing postage stamp.
N.B Warehouse closes at Seven o'clock.

TO ARCHITECTS, BUILDERS, &c.

**R. HENLY and Co., WHOLESALE** IRONMONGERS, and Manufacturers of KITCHEN-RANGES, STOVES, &c., 196, Blackfriars-road, and 117, Union-street, Borough.
Strong Self-acting Kitchen Ranges, with Back Boiler and Oven, and Wrought Bars:—

| 3 ft. | 3 ft. 3 in. | 3 ft. 6 in. | 3 ft. 9 in. | 4 ft. |
|---|---|---|---|---|
| £3. 6s. | £3. 15s. | £3. 16s. | £4. | £4. 10s. |

Henly's Patent Improved, with back Boiler and Wrought Iron Oven:—

| 3 ft. | 3 ft. 3 in. | 3 ft. 6 in. | 3 ft. 9 in. | 4 ft. |
|---|---|---|---|---|
| £5. | £5. 15s. | £6. 5s. | £6. 10s. | £7. |

Best Register Stoves, at 7d., 8d., and 9d. per inch.
Do. Elliptic do., at 3½d., and 4d. do.
Manufacturer of WOLFASTON'S PATENT REGISTER STOVES, a certain cure for SMOKY CHIMNEYS, and effecting a great saving in fuel. To be seen in use daily.
Orders from the Country, accompanied with a remittance or reference, will meet with prompt attention.

**BURBIDGE and HEALY, 130, FLEET-STREET, LONDON,** beg respectfully to inform the Building Public that they fit up COOKING ARRANGEMENTS for large Mansions, with patent appliances on scientific principles, which ensure greater economy and efficiency than hitherto attained. Also HOT WATER APPARATUS, upon improved and scientific principles, which they recommend for its peculiar safety for the Warming of Mansions, &c.
They fit up Laundries with Hot Water Apparatus, for Drying in a cleanly, expeditious, and safe manner. They also fit up BATHS with elegant arrangements, with every modern scientific improvement. Also Apparatus for the plentiful supply of Hot Water for Baths and general use of Mansions and large establishments.

WALKER'S PATENT

**WARMING and VENTILATING** WORKS, LOWER KING-STREET, MANCHESTER.—Established for the manufacture, by machinery, of various descriptions of approved apparatus for warming and ventilating all kinds of buildings by STEAM, HOT-WATER, and WARM AIR, and for the economical application of heat generally to manufacturing and domestic purposes.—The proprietor having been engaged for many years in an extensive practice of this art in various parts of the kingdom, and reduced it to certain and accurate data, and feeling satisfied, from the frequency of failure in warming and ventilating, that there exists a field for the operations of properly qualified persons, is prepared to undertake works of this kind, on the principle of guaranteeing any required temperature and stated amount of ventilation. Drying-rooms and stoves heated, where required, up to 300 deg. Fahrenheit, and drying operations generally planned and executed on improved principles. Having also bestowed much attention to reducing the expense and cumbrous nature of ventilating arrangements, he solicits public notice to the following highly useful, compact, and well-tried inventions:—
Walker's Patent HEAT-BOXES.
Walker's Patent Portable SELF-FEEDING BOILERS, improved SCREW-WARMING and VENTILATING MACHINES.
Walker's Patent HOT-WATER STOVES.
Walker's Patent Tubular and other WARM-AIR STOVES.
Walker's Patent Portable Steam-Engines of useful sizes, with cylindrical or tubular boilers.
Competent workmen sent to any part of the country. References to numbers of public institutions, churches, nobility and gentry, architects, manufacturers, &c., throughout England, Ireland, Scotland, and Wales.

**FIRE-PROOF DWELLING-HOUSES, &c.**—This important desideratum is secured by the use of *Dr.* FOX'S PATENT FIRE-PROOF FLOORS and CEILINGS, which are applicable to private houses generally, as well as to all descriptions of public buildings, warehouses, manufactories, &c. The attention of the public is solicited to this valuable invention, by the use of which the ravages of fire are effectually prevented, while the expense does not exceed that of the ordinary mode of construction; and the proprietors of the Patent are prepared to furnish every information and assistance requisite for its adoption, and to guarantee its successful application to old as well as to new buildings.—Farther particulars may be obtained on application to the Proprietors, Messrs. FOX and BARRETT, Leicester Chambers, 46, Leicester-square.

**PAPER-HANGINGS, CHEAPEST IN LONDON.** — Builders, the Trade, and Country Dealers, may select from a Stock of 20,000 Pieces, of the newest designs, French and English. Bedrooms, 5d. per yard; Satins, 8d. per yard; Flocks, 6d. per yard. Patterns for approval sent in town or country; and Goods forwarded free of expense. A large discount allowed on taking a quantity. Panel decorations, flowers, or oaks remarkably cheap. Terms, cash. Established twenty years. W. CROSBY, 28, Lowther Arcade, Charing Cross.

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**E. T. ARCHER, 451, Oxford-street,** solicits an inspection of the various DECORATIVE PAPERS, fitted up in panels on the walls of the extensive range of apartments, built expressly for that purpose; where also is kept an extensive stock of every variety of Paper-hangings, at the lowest possible price and of the best manufacture, in English and French Designs, by the best Artists; and where may be had a large assortment of French and other Continental Paper-hangings always on hand.—Builders and large Consumers are particularly invited to the above.—451, Oxford-street.

**VASES.—To Noblemen and Gentlemen** requiring VASES and GARDEN ORNAMENTS.—J. M. BLASHFIELD, Commercial-road, Lambeth, has a few fine Vases, Pedestals, &c., &c., which are to be disposed of at a very moderate price; they are manufactured in the best manner, and will stand frost.

**J. MASON** begs to call the attention of the Nobility and Gentry to his superior Collection of Terrace Pieces, Garden and Pleasure Ground Vases, Flower Pots, Fountains, &c. &c. Also Architects, Surveyors, and Builders to a great variety of Perforated Ornaments, for Parapets, Balconies, Terraces, and Garden Walls. Capitals, Trusses, Consols, Chimney Shafts, and other Ornaments, &c. Coats of Arms finished in a superior manner, all at half the usual price.—28, Providence-row, Finsbury-square, from Albion Wharf, Blackfriars-bridge.

**ENCAUSTIC, VENETIAN, BATH, and** other PATENT TILES, and MOSAIC PAVEMENTS, may be obtained in great variety at MINTON and Co.'s Warehouse, 9, Albion-place, Surrey side of Blackfriars-bridge; and at their Manufactory, Stoke-upon-Trent, Staffordshire. — N.B. Slabs and Tiles for Fireplaces, plain and ornamental; Door Furniture, &c.

TO BRICK AND TILE MAKERS.

**THE AINSLIE BRICK and TILE** MACHINE COMPANY (James Smith, Esq., of Deanston, Chairman) invite attention to their improved Brick and Tile Machines, which are to be seen at work at Alperton, and at the Company's office, 193A, Piccadilly, from Ten a.m., to Five p.m. Mr. Robert Scrivener, who has been appointed manager in the room of Mr. John Ainslie, will show the machines at the works at Alperton, which is within a mile of the Sudbury station of the London and North-Western Railway, and two miles of the Ealing station of the Great Western Railway; also at the Polytechnic Institution, Regent-street, London.—All communications to be addressed to Mr. WILLIAM GORDON, Secretary, at the office of the Company, London, 193A, Piccadilly.—March 1, 1847. These machines may also be seen at Mr. Slight's, Leith-walk, Edinburgh; Mr. Robert Boyle's, Ayr; Mr. Lawrence Hill's, 135, Buchanan-street, Glasgow; Mr. Robert Charles', Mill-hill, Leeds; Messrs. Penny and Finch's Penkridge, Staffordshire; Messrs. Drummond and Son's, Dublin; and Mr. John Connor, Newton Lindvady, County Derry.

TO ARCHITECTS AND BUILDERS.

**JENNINGS'S WATER-CLOSETS** have given the greatest satisfaction to all who have tried them; they are most simple in their construction. The water is retained in the bason by the; compression of an elastic tube, the raising of the closet-handle releases the tube, and the water falls with force from the bason through the tube direct into the trap. As no container, or valve chamber, is required in the construction of this closet, all displacement of impure air is avoided when the closet is used.
JENNINGS'S INDIA-RUBBER TUBE COCKS have been tried in Government and other Works, and found to answer most satisfactorily.
The charge for JENNINGS'S SHOP SHUTTER SHOE and FASTENER is 3s. per Shutter, about half the cost of the clumsy Bar.
Apply at 29, Great Charlotte-street, Blackfriar's-road.

**SNOXELL'S PATENT SAFETY** REVOLVING WOOD SHUTTERS, Manufactory, 96, REGENT-STREET and 121, CHANCERY-LANE. Patent sealed on the 4th day of February, 1843, for Fourteen Years, for Improvements in Revolving Shutters of WOOD and IRON, consisting of Six Methods of Raising and Lowering Shutters, without Machinery, and Two for Hinging and Sheathing the Edges of Wood Laths with Iron.—The Patentee having fixed up some hundreds, will feel pleased in forwarding the Testimonials of Architects, Principals of large Establishments, and others, having them now in use, which fully guarantees the Patentee in stating they are beyond dispute superior to any other Revolving Shutter for durability, security, and simplicity, without the use of cog-wheel worm and screw gear, or any other complicated machinery employed by other makers.

**BUNNETT and CORPE, ENGINEERS,** Patentees of
REVOLVING IRON AND WOOD SAFETY SHUTTERS,
and of
ORNAMENTAL METALLIC SASH BARS, MOULDINGS, &c., IN BRASS, COPPER, ZINC, &c.
FOR SHOP-FRONTS, SKYLIGHTS, &c.
Shop-fronts completely fitted and fixed in a superior style, either plain or ornamental, also glazed with best plate glass. Strong moulded stallboards handsomely engraved. Metal works and machinery of all kinds in connection with banking-houses, shops, warehouses, &c. &c.
B. and C. challenge competition as to either quality or price.
Designs furnished and estimates given.
IMPROVED PATENT BENCH AND FLOORING CRAMPS FOR BUILDERS.
SOLE LICENCEES FOR MARVIN and MOORE'S PATENT DIAGONAL GRATINGS.
Office of the Patentees, 26, Lombard-street, London; and at the Works, Deptford, Kent.

**PATENT CONVEX REVOLVING IRON** SHUTTERS, recently manufactured, under license, by the late firm of H. HOWARD and Co., Old-street.
HARCOURT QUINCEY, Patentee.
CLARK and Co., Manufacturers, beg to call the attention of Architects, Builders, and others, to the IMPORTANT IMPROVEMENTS in the above Shutters, and inspection invited at their Manufactory, 236, Wapping, or at their Agents, 486, New Oxford-street. The great importance of strength and stiffness in the laths of REVOLVING IRON SHUTTERS, in affording increased security, is obvious, and it is only necessary to point out the fact, that the patent convex laths are twelve times stronger than the ordinary flat laths, to insure their general adoption.
CLARK and Co. also invite attention to their greatly improved gearing, for raising and lowering the patent Shutters, which, possessing all the advantages of the endless screw (worm and wheel), cannot, even by wear, be liable to run down, and entirely avoids the necessity of using the ratchet-wheel, and is at once simple and thoroughly effective, and is SAFER and MORE DURABLE than any plan yet adopted for that purpose; thus rendering the Patent Revolving Shutters the SAFEST and MOST EFFECTIVE in use. These Shutters are fixed horizontally (either above or below the window or door), or vertically, for which position the greatly increased strength of the convex laths renders them peculiarly suitable; and one, as applied to a doorway, may be seen any day after Four o'clock at the Britannia Life Assurance Office, corner of Princes-street, Bank.
CLARK and Co. are the SOLE MANUFACTURERS of REVOLVING SHUTTERS, WITH CONVEX IRON LATHS. Engravings and Prospectuses forwarded on application. IMPROVED DRAWN METALLIC SASH BARS, ASTRIGALS, MOULDINGS, STALL-BOARD PLATES, &c.
Steam Engines always on hand. Sawing and Planing Machinery of every description made to order. Wrought-Iron Box, and Cast-Iron Girders for bridges, buildings, &c.—CLARK and Co., Engineers, 236, Wapping, or at 486, New Oxford-street, and 4, Mount-gate-street, City.

REDUCED PRICES.

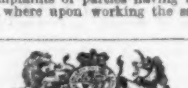
**WILLIAM CLEAVE, of Wilton-road,** Pimlico Basin, begs to acquaint Builders and the Trade that he has now on hand, at his Manufactory (the first of its kind ever established), a very large Assortment of Dry and Well-seasoned FLOORING BOARDS and MATCH BOARDING of all sorts, from ½ inch to 1¼ inch thick, planed to a parallel width and thickness, and at greatly Reduced Prices. Also, Timber-Deals, Oak Planks, Scantlings, Sash Sills, Moulding prepared by Machinery, Laths, &c.

Apply at W. CLEAVE'S Flooring Manufactory and Timber Yard, Wilton-road, Pimlico Basin, late C. MOORE and SON.

**A REDUCTION in the PRICE of FLOOR** BOARDS.—ALFRED ROSLING begs to inform the Trade and Consumers generally, that he has REDUCED the PRICE, and keeps constantly in stock a large and very general assortment of Prepared Floor Boards and Matched Boarding, planed to a parallel breadth and thickness, and fit for immediate use; also a variety of machine-prepared Mouldings, which are finished with great accuracy and attention to quality of workmanship.—Southwark Bridge Wharf, Bankside, and Old Barge Wharf, Upper Ground-street, Blackfriars.

**T. ADAMS (late S. DARE), MAHOGANY** and TIMBER MERCHANT, Bermondsey New Road, near the Bricklayers' Arms. SEASONED FLOORING, MATCH-BOARDING FIT FOR IMMEDIATE USE, and MOULDINGS prepared by machinery, Cut Deals and Scantling of every dimension, Mahogany, Cedar, Rosewood, Wainscot, Elm, Beech, Oak, &c., in planks, boards, veneers, and logs; Pantile, Oak, and Fir Laths; Wheelwrights' Goods. All sawn and prepared goods delivered free of expense (except timber). Sawing charged at mill prices. Very extensive Drying Sheds.

**MAHOGANY.—Twenty Thousand Pounds'** worth of dry HONDURAS and SPANISH MAHOGANY and WAINSCOT always on hand, suitable for Builders, Pianoforte Manufacturers, Cabinet and Coachmakers, Railway Contractors, and all persons requiring well-seasoned materials at moderate prices, at T. C. WILSON'S Timber-Yard, 13, Greek-street, Soho.—T. C. WILSON adopts this mode of informing the public where they can procure dry and superior articles, in consequence of the numerous complaints of parties having bought wood elsewhere as seasoned, where upon working the same it has proved otherwise.

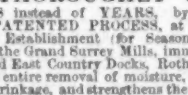
MUIRS PATENT  PLANING MACHINE.

SAW MILLS, GILLINGHAM-STREET, PIMLICO.

**TIMBER of any size, PLANK, DEALS,** and BATTENS, &c., Sawn on the most approved principle. Boards, &c., Prepared, Matched, and Grooved, by Muir's Patent Machinery. The Mills have all the advantages of navigation and water-carriage, being connected with the Thames by the Grosvenor Canal. Goods fetched from the docks and carted home free of charge.

Address to HENRY SOUTHAM,
Saw Mills,
Gillingham-street, Pimlico.

N.B. Estimates given for Sawing and Planing.



**WOOD THOROUGHLY SEASONED** in DAYS instead of YEARS, by DAVISON and SYMINGTON'S PATENTED PROCESS, at the Patent Desiccating Company's Establishment (for Seasoning, Sawing, and Planing Wood), at the Grand Surrey Mills, immediately adjoining the Commercial and East Country Docks, Rotherhithe. The new process ensures the entire removal of moisture, hardens the gums, prevents further shrinkage, and strengthens the fibre.—For scale of prices, or license to work the patent, or any further information, address, post-paid, or apply to W. H. TANQUERAY, Secretary.

The Patent Desiccating Company's Offices are REMOVED from 28, New Broad-street to No. 41, GRACECHURCH-STREET, CITY.

BUILDERS AND CONTRACTORS.

**TARPAULINS for COVERING ROOFS** during Repairs. SCAFFOLD CORD and every description of ROPE used by Builders upon the lowest terms. Marquees and temporary awnings on sale or hire. Orders per post receive the most prompt attention.—WILLIAM PIGGOTT, 115, Fore Street, City, Manufacturer, by Appointment, to Her Majesty's Honourable Board of Ordnance.

**TO GAS COMPANIES, Gas Fitters, and** Gas Consumers.—N. DEFRIES, 10, Hampstead-road, 67, St. Martin's-lane, and 118, Argyle-street, Glasgow, having proved by eight years' experience his DRY METER to be unrivalled, begs to say, that nearly 20,000 are now in use, defying injurious Gas and are never affected by Heat, Damp, or Frost. They may be obtained on Hire of all the Gas Companies who supply Meters to their Customers.—Testimonials of great value may be obtained at either Factory.



**T. PUGH'S REGISTERED RIM LOCK.** —T. PUGH and Co. beg to invite the attenton of Architects, Builders, and others, to these new Rim, Drawback, and Dead Locks and Latches, in either brass or iron, possessing great advantages in form, over the usual Rim Lock, and also in the quality, and produced at very moderate prices; each lock is warranted perfect and complete, with patent shifting spindles.—To be had only of T. PUGH and Co., 13, King-street, Snow-hill, City, at their Ironmongery Warehouse, where they keep an extensive and most complete stock of hammered and cut nails, iron and brass foundry, mortice locks and latches, plain, half-rabbeted, and rabbeted; porcelain, glass, ivory, buffalo horn, wood, and all kinds of fancy mortice lock furniture; all goods of the best manufacture, and of the same superior quality they have been accustomed to send out for upwards of the last twenty years.

TO ARCHITECTS AND BUILDERS.

**CHUBB'S WROUGHT-IRON and FIRE-** PROOF DOORS and FRAMES, for strong Rooms. A large stock of the above, of all sizes, made in the best manner, and of different strengths, fitted with CHUBB'S PATENT DETECTOR LOCKS, throwing from two to twenty bolts, constantly on sale, at very moderate prices. FIRE-PROOF SAFES of every size, and Patent Detector Locks and Latches for all purposes.—C. CHUBB and SON, sole Manufacturers, 57, St. Paul's Churchyard, London.

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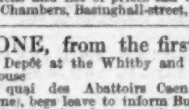
**CAUTION to Purchasers of FIRE-PROOF** DOORS for Strong Rooms, Safes, Chests, and Detector Locks, &c. &c. LEADBEATER, many years manufacturer for Chubb.

LEADBEATER begs most respectfully to inform Architects, Surveyors, Builders, &c., that he can supply them with IMPROVED DETECTOR LOCKS for universal purposes, STRONG WROUGHT IRON FIRE-PROOF DOORS, SAFES, and CHESTS, &c., on the most improved principles of security against FIRE and THIEVES, without the aid of "expensive machinery," which is employed by some inexperienced makers, but must be paid for; at prices 25 per cent. under any other house in London.

LEADBEATER offers ONE HUNDRED POUNDS reward to any person who can pick his improved detector locks or latches. Some thousands of Leadbeater's strong-room doors and safes have now been put up without a SINGLE COMPLAINT, and fifteen years' practical experience, during which he has adapted every possible improvement to real security, enables him to challenge competition with any house in London. A large assortment of all sizes on sale and made to order. A pair of extra strong wrought-iron fire-proof folding-doors with ventilating gates, made expressly for a banker's strong room, may be viewed at his manufactory. Strong wrought-iron doors for party walls, with wrought-iron rabitted frames, and secured by the BEST DETECTOR LOCKS in ENGLAND, 6 feet high by 2 feet 2 inches wide and upwards, price 10l. each, always on hand at LEADBEATER'S MANUFACTORY, 126, ALDERSGATE-STREET, LONDON.

**PAVING, 2s. 9d. PER SQUARE YARD,** Basements, Foot-walks, Malt-houses, Corn Stores, Floors of Warehouses, and every description of Pavement laid down at the above low price, and the work guaranteed.—Apply to JOHN PILKINGTON, POLONCEAU'S BITUMEN PAVEMENT OFFICE, 15, WHARF-ROAD, CITY-ROAD.—N.B. Country Agents and Railway Engineers and Contractors supplied with the best bitumen for covering bridges and arches.



**PATENT METALLIC LAVA,** WHITE AND ORNAMENTAL, for the interior of Churches, Museums, Halls, Vestibules, Conservatories, &c. &c.; BROWN, for Foot Pavement, Flooring, covering Railway Arches, Terraces, Roofs, &c. &c.—Manufactured only by Messrs. ORSI and ARMANI.—Specimens and list of prices can be obtained at the offices, 6, Guildhall Chambers, Basinghall-street, City.

**CAEN STONE, from the first Quarries of** Allemagne. Depôt at the Whitby and Scotch Wharf, 14, Fore-street, Limehouse.

P. FOUCARD, quai des Abattoirs Caen (propriétaire de Carrières à Allemagne), begs leave to inform Builders, Architects, and others, that he has, on the above-mentioned wharf, 50,000 feet of the best stone ready to meet the demands of purchasers.—Contracts taken for any quantities.

Orders received by Mr. BASCHET, at 39, Stoney-street, Borough Market,—Cargoes shipped to order, from Caen, to any port.

**CAEN STONE.—Original Sufferance Depôt,** Norway Wharf, Greenwich.—W. TUCKWELL, Caen Stone Quarry Proprietor and Importer, begs to invite the attention of Architects, Surveyors, Builders, and others to the Stock of CAEN STONE on his Wharf; he is prepared by constant arrivals to execute orders to any extent on the most advantageous terms.—Shipments made to any port direct from his quarries at Caen.

N.B. Orders received at the Wharf, as above; also at the Offices of Mr. R. A. WITHALL, Surveyor, 80, Cheapside, where further information and samples may be obtained.

**CAEN and AUBIGNY STONE.—** LUARD, BEEDHAM, and Co., Proprietors of extensive Quarries of best Caen Stone at Allemagne, and Aubigny Quarries, near Falaise, Normandy, beg respectfully to invite attention of Archæologists, Architects, Engineers, Surveyors, Builders, and others to the above. Caen Stone is too well known to need special notice. Aubigny Stone, from its fineness of grain, hardness of texture, beauty of colour, freedom from vents, shell, and great durability, ranks amongst the first for building and engineering purposes, hall paving, staircases, sculpture, tombs, cemetery works, and general masonry. L. B. and Co. have for many years supplied large quantities to various parts of the continent for public works, light-houses, &c., under the patronage of the Royal Engineers. Orders executed to all parts of the United Kingdom with despatch direct from the quarries. A large stock of seasoned Caen and Aubigny Stone always on hand, at Caen Sufferance Wharf, Rotherhithe, where samples and information may be obtained.—Office, 18, Southwark-square, Southwark-bridge-road, Southwark.

**ANSTONE STONE WHARF,** STANGATE.—Mr. GRISSELL has the honour to inform Architects and Builders that he has made arrangements for the SUPPLY of the ANSTONE STONE for all building purposes, and which can now be seen at the above wharf by application to Mr. W. G. WARDLE, of whom every necessary information can be obtained.

August 30, 1848.

**ANSTON STONE, used for Building the** New Houses of Parliament.—W. WRIGHT and Co. beg to inform Architects, Engineers, Builders, and others, the Anston Stone can be supplied in any quantity on the shortest notice. This valuable stone, so celebrated for its durability, colour, and texture, is well known, having been selected in preference to all others, by the Commissioners of Woods and Forests, for building the New Houses of Parliament. It is very superior for Monuments, Tombs, &c. &c.

W. WRIGHT and Co. deem it important to state the Anston Stone offered by them is from the same bed as that from which the New Houses of Parliament are being constructed, a hedge alone being the division of the properties of the Duke of Leeds and W. Wright and Co.

Facilities are at hand for forwarding it to all parts of the Kingdom.—Application to be made to W. WRIGHT and Co., Anston, near Sheffield, Yorkshire.

**SAMUEL CUNDY, Mason and Builder,** PIMLICO MARBLE and STONE WORKS, Belgrave Wharf, Pimlico, begs to inform Architects and the Public that MASONS' WORK, in all its branches, is executed on the most reasonable terms, in such manner as must meet the views of his Patrons.

GOTHIC WINDOWS and the more elaborate Works produced at a reduced cost, on a system that combines economy with the required accuracy and truthfulness.

FONTS from 5l. upwards.

MONUMENTS and TOMBS in great variety of design.

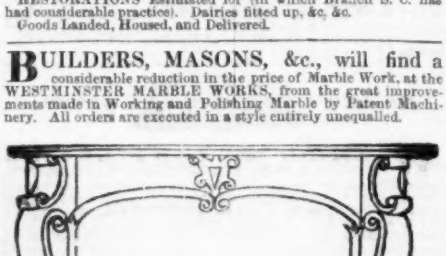
The most varied Assortment of ORNAMENTAL, PLAIN, and ENCAUSTIC TILES, in Town, on view.

Stone-box Chimney-pieces, from ..... 12s.
Vein-Marble " ..... 40s.

RESTORATIONS Estimated for (in which Branch S. C. has had considerable practice). Dairies fitted up, &c. &c.

Goods Landed, Housed, and Delivered.

**BUILDERS, MASONS, &c., will find a** considerable reduction in the price of Marble Work, at the WESTMINSTER MARBLE WORKS, from the great improvements made in Working and Polishing Marble by Patent Machinery. All orders are executed in a style entirely unequalled.




The business of this establishment is so arranged as to be a great advantage to the trade, from the great variety of Chimney-pieces and Monuments always on view, and sold at a very low charge; also the liberal commission always allowed to the trade.

Westminster Marble Company, Earl-street, Millbank.

**TERRA-COTTA, or VITRIFIED STONE** WORKS, King Edward-street, Westminster-road, London.—M. H. BLANCHARD, from late Coade's Original Works, Belvedere-road, Lambeth, begs to inform the Nobility, Gentry, Architects, and Builders, that he has re-established the manufacture of that invaluable material, which has been successfully adopted by our eminent Architects and others, in the adornment of our noblest buildings, nearly 100 years has proved the imperishable nature of the material, the specimens of those times now exhibiting all their primitive sharpness.

Groups, statues, friezes, capitals, panelling, pinnacles, finials, terminals, Tudor, and other chimney shafts, balustrading, fountains, fonts, tazzas, vases, coats of arms, devises, and every description of architectural ornament, at prices in many instances nearly half the cost of stone.

Specimens of the material to be seen at the Office of "The Builder," 2, York-street, Covent Garden, and at the Works.

**STIRLING'S BELVEDERE SLATE** WORKS, Belvedere-road, Lambeth.—A reduced list of prices of the best WELCH SLATE SLABS, planed both faces, will be sent on application (post paid) being made, and inclosing a postage stamp. The prices are under those advertised for inferior slates.

**SLATE SLABS.—The Finest Slabs pro-** duced in WALES, of amazing strength, pure in texture, and free from spots, may be had of Mr. MAGNUS, at the PIMLICO SLATE WORKS, Upper Belgrave-place, planed both faces at the price that inferior Slabs in the rough (self-faced) are currently selling. These reduced prices are also subject to a very large trade discount. These Slabs have been extensively used at Buckingham Palace, Strathfieldsaye, the Royal Naval and Military Schools, Deptford, the Model Prison, Pentonville, the Goulstone-square, Baths and Washhouses, on most of the Railways, and are specified for by the most eminent architects. Whole cargoes supplied direct from Mr. Magnus's Works in Wales, planed both faces, at very low rates. Slate Tanks, Fittings for Dairies, Larders and Wine Cellars, Landings, Cantilevers, Chimney Pieces, &c. &c.

TO THE BUILDING PUBLIC.

**FIRST-RATE ORNAMENTS** in ROMAN and other CEMENTS, and PLASTER of PARIS, at reasonable prices, consisting of Vases, Balusters, Capitals, perforated Panellings, Cantilevers, Brackets, Trusses, Wreaths, Scrolls Masques, Heads, Figures, Friezes, Gothic and other Chimney-Shafts, Scotia, Bed-moulds, Pateræ, &c., &c., 36-inch Centre, Flowers fixed complete, 24s. each, smaller in proportion. An assortment of Shop-front Trusses always ready for fixing.—JOHN HERBERT and SON, Modellers, &c., 42, Parker-street, Drury-lane.

**PLASTER or GYPSUM QUARRIES.** —BROWN and RAGSDALE, Newark-upon-Trent, in addition to their old, have just opened some new Quarries of Plaster, the quality of which is excellent, and have now on hand for sale a large stock of Best White Rock, Second White, Best Grey Rock, and Second Grey.—Freights to Gainsborough, 2s.; Hull, 4s. per ton. An order is solicited from those who have not yet purchased at first hand.—Newark, August, 1848.

**GREAVES'S BLUE LIAS LIME and** LIAS CEMENT.—Messrs. RUTTY and VEREY'S, 2, South Wharf, Paddington Basin. Works at Stratford-on-Avon and Southam. GLAZED STONE WARE DRAIN PIPES on hand.

**ATKINSON'S CEMENT.—WILLIAM** WOOD, Jun., Manufacturer of Roman, Portland, and Bath Cement, Blue Lias Lime Works, CHURCH STREET, ROTHERHITHE, Sole Consignee for Atkinson's Cement.—Cement Chimney-pots of every pattern.

**KEENE'S PATENT MARBLE CEMENT** forms an exceedingly hard and indestructible Stucco, which may either be prepared for paint, or finished in imitation of stone, by the addition of Portland or other stone dust.

It is a cheap and efficient substitute in place of wood for skirting, architrave, and other mouldings, in its application for which purposes it checks the progress of Fire and the attacks of Vermin.

Patentees and sole Manufacturers, J. B. WHITE and SONS, Millbank-street, Westminster, and Steel-street, Liverpool.

**PORTLAND CEMENT.—J. B. WHITE** and SONS, request reference to Nos. 284 and 285, pages 343 and 351, of "The Builder," for accounts of experiments on the strength of Portland Cements.—These trials show that for the practical purposes of building, the connecting power of Portland Cement exceeds that of Roman Cement in the proportion of four to one; thus marking it as the most fit material for turning the brick arches of Railway bridges and other works of a critical nature, while its firm adhesion to most sorts of stone, as well as bricks, combined with its eminently hydraulic properties, adapt it for such purposes as the building of sea and wharf walls, and the lining of reservoirs, cisterns, baths, &c. Manufacturers, J. B. WHITE and SONS, Millbank-street, Westminster.

**PORTLAND CEMENT, solely Manufac-** tured by W. ASPDIN, Son of the Patentee. This Cement has been proved, for upwards of twenty years in the Thames Tunnel, to resist the action of water; it is stronger in its cementitious qualities, harder, and more durable than any other description of Cement; it does not vesciate, oxydate, or turn green; nor is it affected by any atmospheric influence whatever, the climate resisting alike the action of frost and heat. It is manufactured to set in from five to sixty minutes. For all purposes that Cement is applicable the Proprietors challenge competition.—Orders received by Messrs. ROBINS, ASPDIN, and Company, at their Manufactory, Northfleet, Kent, and their Wharf, Great Scotland-yard, Whitehall; also by their Agent at the Depôt, 1, Back Goree, Liverpool.

**JOHNS and CO.'S PATENT STUCCO** CEMENT and PAINT.—The attention of Architects, Builders, Plasterers, Painters, Merchants, and the Public generally is solicited to the many advantages attached to these celebrated Materials, which, for their appearance, durability, imperviousness, utter resistance to frost or heat, and general economy, distinguish them from all other cements and paints, and fully justify the confidence reposed in them, as shewn by the numerous testimonials received from public bodies and private individuals of the first importance.—Prospectuses and particulars may be obtained from the sole agent, PHILIP HARE, at the Warehouse, 22, Steel-yard, Upper Thames-street.

**PARIAN CEMENT, used as a Stucco,** cannot easily be distinguished from Statuary or Parian Marble. It is fit for all the purposes of that beautiful material, and does not crack, warp, or efflouresce in any degree. The fine quality will incorporate with the most delicate colours; is adapted to encaustic work, fresco, imitation of marble, and the most elaborate embellishment. So perfect are its setting or crystalizing properties, that the coarse quality, when applied to newly built or damp walls, may be immediately polished, painted, or papered; and rooms rendered habitable before the materials ordinarily used would begin to dry.—Manufactured by CHAS. FRANCIS and SONS, Roman Cement Works, Nine Elms, London.

**MARTIN'S PATENT FIRE-PROOF and** ORNAMENTAL CEMENT—REDUCTION of PRICE.—The Patentees beg to inform their Friends and the Public that they have made arrangements which enable them to offer this invaluable cement at a considerably reduced price. It has now been before the public so many years, and has obtained so high a standing in the estimation of all who have used it, that it is unnecessary to comment on its merits. The Patentees, however, feel called upon to observe, that by its use—from the greater amount of surface which a given quantity will cover, and the small amount of labour required in working it, a saving of 25 to 30 per cent. is effected as compared with other cements for internal use. Specimens shewing its beauty, hardness, and applicability to all plain and ornamental purposes, may be seen; and the Cement in any quantity obtained of the Patentees, Messrs. STEVENS and SON, at their Plaster and Cement Works, 186, Drury-lane, London.

**EMERSON'S PATENT LIQUID** CEMENT.—This VALUABLE AND ECONOMIC PAINT is ready for use, is simple in its application, and only ONE-SIXTH the cost of oil paint; for beauty it is pre-eminent over all other materials used on the fronts of houses, giving the exact appearance of FINE CUT STONE; it can be used at once on fresh Roman cement or other plastering, and is particularly calculated for country houses, villas, or gate entrances that have become soiled or dingy, which can be at once beautified in any weather, at a mere trifling cost.—Sold in casks of 1 and 2 cwt., at 8s. and 15s. each.

PATENT MINERAL PAINT.

A brilliant black paint, invaluable as a coating for SHIPS' SIDES AND BOTTOMS; also for all kinds of WOOD or METAL work, or the asphalte roofing felts, leaky roofs, spouts, and gutters, doors, sheds, railing, and all kinds of out-door work, and being perfectly waterproof, will preserve their surfaces from atmospheric influence and decay,—requires no preparation, and will dry in a few hours.—Price 2s. per gallon.

PATENT ASPHALTE ROOFING FELT of the best quality, at one penny per square foot, in pieces 25 yards long, and 33 inches wide.

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